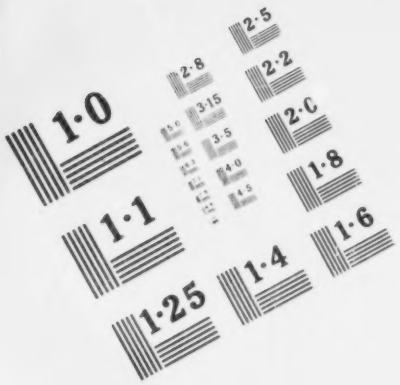

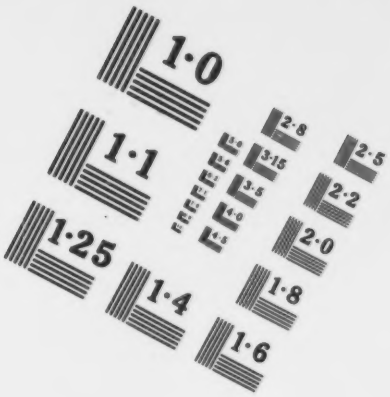

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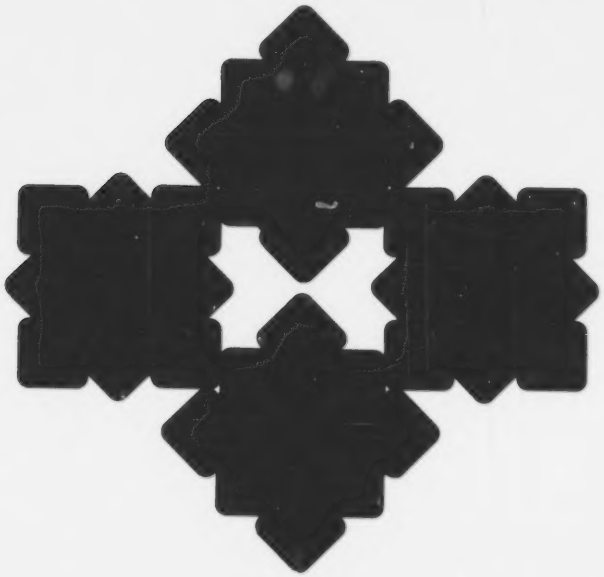

The Current Population Survey of Voting and Registration: Summary and History

Estimating Voter Turnout in the Current Population Survey

Effects of Population Estimates on Voter Participation Rates

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Current Population Reports **Special Studies** P-23 No.168

Studies in the Measurement of Voter Turnout

The Current Population Survey of Voting and Registration: Summary and History

Estimating Voter Turnout in the Current Population Survey

Effects of Population Estimates on Voter Participation Rates

Issued November 1990

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Preface

Analyses of voter turnout and registration in U.S. national elections provide a basis for evaluating the effectiveness of laws and methods designed to facilitate full participation of voting-age citizens in the electoral process. In its recurring series, the Bureau publishes independent estimates of the age-eligible population, while its biennial surveys on voting and registration provide the nation's most reliable data on the social, economic, and demographic characteristics of those who vote and those who do not. Unfortunately, estimates of the voting-age population suffer from weaknesses associated with measuring the different component groups which make up the eligible population, while the Current Population Survey (CPS), like all household surveys, substantially overestimates voting and registration.

This report contains a set of three papers designed to illuminate different aspects of measuring voting behavior. The first paper, by Jerry Jennings, describes the history of the Current Population Survey voting supplements, the main source of data on characteristics of the U.S. electorate. The second paper, also by Jerry Jennings, provides detailed discussion of the nature and extent of error in estimates derived from the CPS voting surveys. The third paper, by Jeffrey Passel, addresses the development of independent estimates of the various segments of the population for whom voting rates are usually calculated.

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The Current Population Survey of Voting and Registration: Summary and History

Jerry T. Jennings, Bureau of the Census

Nationwide concern over low voter turnout among Blacks in the 1960's stimulated a desire for reliable information on the extent to which Blacks in different regions of the Nation actually registered and voted. In an attempt to meet this need for data, the Census Bureau in 1964 added a biennial supplement to its November Current Population Survey (CPS) asking respondents of voting age if they had voted in the election held two weeks earlier. This supplement has remained a part of the Current Population Survey since that time and results of the surveys showing the extent to which different population groups vote, and since 1966 register, are published biennially in the Bureau's Current Population Reports, Series P-20. Data from these surveys are now the nation's main source of information for comparing turnout rates among subgroups of the population.

A year-by-year description of the supplement and major publications based on it will introduce the types of data generated and show how the supplement has changed over the past two decades. Table 1 summarizes these changes.

1964—the first year. Despite occasional reversals, the range and variety of information collected and tabulated in the voting supplement has gradually expanded. In 1964, the first survey merely asked respondents if they had voted in that November's national election. Results from the survey (published in Series P-20, No. 143) provided the Bureau and the nation for the first time with detailed information from a large national sample on the social, economic, and demographic characteristics of people who reported that they had voted and those who reported they had not.

In addition to providing estimates of the proportion of voters and nonvoters in age, sex, and racial groups, this early survey provided large sample statistics on the effect of education, occupation, and family income on the likelihood of voting, as well as some data on the mix of voters and nonvoters among family members. No question on registration was asked in the 1964 survey.

1966. Beginning with the 1966 survey and continuing since, persons who reported that they had not voted have also been asked if they were registered. Until 1982, those who said that they were not registered were then asked the main reason they had not registered. In the 1966 survey, interviewers read a list of possible reasons for not registering and asked respondents to indicate the one that best explained why they had not registered. Alternatives which the interviewer read included:

Not a citizen of the United States
Had not lived here long enough to qualify to vote
Other reason
Don't know

A small box was provided on the questionnaire for the interviewer to write in the other reason. In all subsequent years, the interviewer marked a preprinted reason for not voting or not registering that most nearly matched the respondent's verbal response, without showing the list or revealing its contents to the respondent. The 1966 survey also asked respondents if they had voted for someone for Congress.

Published results from the 1966 survey (Series P-20, No. 174) paralleled those from the 1964 survey, with the addition of cross-classifications of registration status, by age, sex, race, and years of school completed.

1968. The survey of 1968 was the first time the Bureau of the Census obtained information in the CPS on the extent to

Table 1.
Summary of Current Population Survey Questions on Voting and Registration: 1964 to 1988

Question	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982	1984	1986	1988
Voting:													
Vote in general election	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
For specific office		Yes	Yes		Yes		Yes		Yes				
By absentee ballot						Yes	Yes	Yes	Yes		Yes		
Time of day voted					Yes	Yes					Yes		
Vote in primary							Yes						
Vote in prior election			Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes		
Reason for not voting					Yes	Yes	Yes	Yes	Yes				
Registration:													
Registered for this election		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Registered for prior election													Yes
Reason not registered		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Citizenship status[1]								Yes	Yes	Yes	Yes	Yes	Yes
Media projections											Yes		
Duration of current residence						Yes	Yes	Yes	Yes				

[1]"Not a citizen" was listed as reason for not registering, 1966 to 1976.

which lack of interest versus external conditions, such as illness, lack of transportation, or the inability to take time off from work, prevented persons from registering. In all subsequent surveys through 1980, the CPS attempted to ascertain of all nonregistered persons whether they had failed to register, (or beginning in 1972, to vote) because they were not interested or because they were unable to do so. The enumerator coded responses and marked a preprinted category on the questionnaire without reading the list to the respondent.

Respondents were asked directly if they had voted for someone for President; also the 1968 survey included, a question for the first time asking respondents if they had voted for someone for President in the previous (1964) Presidential election. The question was asked of all respondents regardless of whether they reported having voted in the 1968 election, or even whether they were registered. A variation of this question has been included in subsequent surveys, including those in Congressional only election years, until 1982, when budget constraints forced a reduction in the number of questions included in the supplement.

Published results from the 1968 survey (Series P-20, No. 192) continued tabulation of the demographic and socioeconomic characteristics of voters and nonvoters begun with the 1964 survey, and expanded them by addition of the new data on continuity in voting.

1970. The survey in the 1970 Congressional election year remained in substance the same as in 1968 and publication followed essentially the 1968 format. These data are published in Current Population Reports, Series P-20, No. 228. A public use tape for 1970 is also available for purchase.

1972. In response to widespread concern that television network airing of election results for States in the East prior to closing of the polls in western time zones might be affecting turnout in the West, a question was added to the 1972 survey asking respondents who reported that they had voted the time of day they voted and whether they had voted at the polls or by absentee ballot. Results were tabulated and published at the national and regional levels. Also in 1972, a new question was included asking respondents who reported that they were registered but had not voted why they had not voted. The question wording and the categories into which the enumerators coded responses were as follows:

What was the main reason . . . was not registered to vote?

Not a citizen of the United States
Had not lived here long enough to be qualified to vote
Not interested, just never got around to it
Dislikes politics, did not prefer any of the candidates
Unable to register because of illness, no transportation, couldn't take time off from work, etc.
Other reason
Don't know

What was the main reason . . . did not vote?

Not interested, just never got around to it
Dislike politics, did not prefer any of the candidates
Unable to vote because of illness, no transportation, couldn't take time off from work, etc.
Machines not working, lines too long, etc
Out of town or away from home
Other
Don't know

As in earlier surveys, space was reserved on the 1972 questionnaire for enumerators to write out brief verbatim statements of respondents' stated reasons for not registering or not voting. These write-in entries were not coded or tabulated for publication, however, an internal analysis was made of a sample of the responses and the results became the basis for the much expanded set of response categories included on the 1974 questionnaire. Respondents in 1972 were also asked if they had voted for a candidate for President that year and in the previous (1968) Presidential election.

New data for 1972 included voting and registration rates for 11 self-identified ethnic origin groups. In addition to the new ethnic data, the published report, Series P-20, No. 253, contained more extensive cross-classifications of social, economic, and demographic variables for voters and nonvoters, registrants and nonregistrants, Spanish-origin iterations, and expanded geographic detail, including voting and registration rates for the 15 largest States, by sex. A public use data tape is available.

1974-76. In terms of sheer volume of voting and registration information collected, the surveys in the Congressional elections of 1974 and the Presidential election of 1976 were the most ambitious undertaken by the Bureau of the Census to that time. In addition to all the questions from the 1972 survey, including the time of day of voting and a separate question on method of voting, the 1974 survey also asked respondents who reported that they had not voted whether they had ever voted in a national, State, or local election and the year they had last done so.

In an attempt to clarify the meaning of the frequent response "recently moved here" to the question on reason for not registering, all persons in the supplement were asked how long they had lived at their current addresses. Those who reported having lived there for less than 6 years were then asked where they had lived before moving to the present address. Response categories identified same or different county, same or different State, or outside the United States.

The 1976 survey dropped the questions on time of day of voting and previous residence, but continued all other questions from the 1974 survey and added an inquiry on whether the respondent had voted earlier that year in a primary election to select a candidate for Con-

gress or President. No subsequent survey has included a question on voting in primary elections.

Published results from the 1974 and 1976 surveys (Series P- 20, Nos. 293 and 322, respectively) were much curtailed from the extensive breakdowns in the 1972 report, but still included data from all the items for which information was collected without, however, iterations for all age, sex, or racial groupings. New published data in 1976 included voting and registration rates for the 30 largest (as of 1973) standard metropolitan statistical areas (SMSA's), and expansion of the number of States for which voting and registration rates were shown to the 25 largest. A public use tape is available for each year.

1978–80. Survey questions in the 1978 Congressional and 1980 Presidential election years were curtailed from the ambitious undertaking in the 1974 and 1976 surveys. Dropped were the questions on whether the respondent had ever voted, last time voted, and whether voted in a primary election. The list of reasons for not registering or not voting was shortened. The item on citizenship status was moved from one of the response categories for reasons not registering and asked as a direct question at the beginning of the supplement to screen out noncitizens. Thus, in 1978 and subsequent surveys, the voting and registration questions have been asked only of citizens; voting and registration rates, however, continue to be computed using as the denominator the total civilian noninstitutional population of voting age. Since 1978, most tables in the published reports show the number of noncitizens in a separate column to allow users to compute voting rates based on the citizen population.

Results of the 1978 and 1980 surveys were published in Current Population Reports, Series P-20, Nos. 344 and 370, respectively. A public use tape is available for purchase for both 1978 and 1980.

1982. Because of budget constraints, questions on the 1982 supplement were further reduced to a lead-in question on citizenship and whether the respondent had voted. Nonvoters were still asked if they were registered. Results of the 1982 survey were published in Current Population Reports, Series P-20, No. 383. A public use tape is available for this survey.

1984. The 1984 survey restored most of the questions removed in 1982, except those on reason for not registering or voting, and in addition, contained the most radical methodological and substantive departures since inception of the supplement in 1964. First, the retrospective question on whether the respondent had voted in the previous Presidential election and the question on time of day of voting were restored.

The second set of changes was more involved. Students of voting behavior have long been concerned that one source of the perennial overreporting on voting common to household surveys arises because proxy respondents state that absent household members voted when in fact they had not. In an attempt to assess the impact of proxy respondents on the voting rate, interviewers for the two outgoing rotation groups (about one-fourth of the total sample), after asking the voting and registration questions for missing persons in the usual manner, later made callbacks to ask the voting and registration questions directly of designated respondents.

In addition to following up proxy voting and registration responses, interviewers on these callbacks also inquired whether the respondent had heard a media projection of the winner in the Presidential election prior to voting, or if a nonvoter, prior to 6 p.m. local time on election day. These questions on exposure to media projections were added in response to continued nationwide concern over the possible effect on voter turnout of network projections before closing of polls in western States. However, unusually high proportions of persons reporting that they had heard the networks project the Presidential winner during daytime hours before any such announcements were made by the networks compromised the validity of the results of these survey items.

Results of the 1984 survey at the national and regional level were published in Current Population Reports, Series P-20, No. 405, and at the State level in the Advance Report, Series P-20, No. 397. A public use tape is available for purchase.

1986. The 1986 survey reverted to the questionnaire design of 1982, that is, a lead-in question on citizenship, followed by the question on whether respondents had voted, and for those who answered that they had not voted, whether they were registered. Although tabulations were iterated as in previous years, not all tables were published. Unpublished tables (including the more detailed States tables) are available on request at a small fee. A public use tape is also available.

1988. The 1988 survey, in addition to asking the basic questions on voting and registration, attempted to determine the number of persons who had registered specifically for the 1988 election and, for persons who said they had registered specifically for the 1988 election, whether this was the first time they had ever registered.

Advanced data on voting and registration for age, sex, and racial groups, for the United States and States were published in Current Population Reports, Series P-20, No. 435. Final detailed data on the social and economic characteristics of voters and nonvoters, as well as the new data on registration, were released in Current Population Reports, Series P-20, No. 440. A public use tape is available.

Users wishing to obtain copies of the November Current Population Survey data tape should contact:

Data User Services Division
Customer Services (Tape)
Bureau of the Census
Washington, D.C. 20233
Telephone: (301) 763-4100

Appendix

Current Population Survey Supplement Questionnaires on Voting and Registration

Facsimile of November 1964 Supplemental Questionnaire

34. INTERVIEWER CHECK ITEM

In what State is this household located? *(Mark one circle below and proceed accordingly.)*

All States except Georgia, Kentucky, Alaska, or Hawaii		Georgia or Kentucky		Alaska		Hawaii	
Is this person 21 years old or over?		Is this person 18 years old or over?		Is this person 19 years old or over?		Is this person 20 years old or over?	
Yes	No	Yes	No	Yes	No	Yes	No
(Go to 35)	*(Go to next person)*	*(Go to 35)*	*(Go to next person)*	*(Go to 35)*	*(Go to next person)*	*(Go to 35)*	*(Go to next person)*

35. *(Read once in household)* - This month we have a question on voting in the recent election. We are not interested in who you voted for but only in whether you voted.

Did. . .vote in the national election held on Nov. 3?

Yes No

36. EDUCATIONAL ATTAINMENT - *(For all persons with "Yes" in check item 34. Transcribe from Control Card items 26a - 26b, if available, otherwise ask:)* What is the highest grade *(year)* of regular school. . .has ever attended?

Never attended 0

	1	2	3	4	5	6	7	8
Elementary School . . .	0	0	0	0	0	0	0	0

	1	2	3	4
High School	0	0	0	0

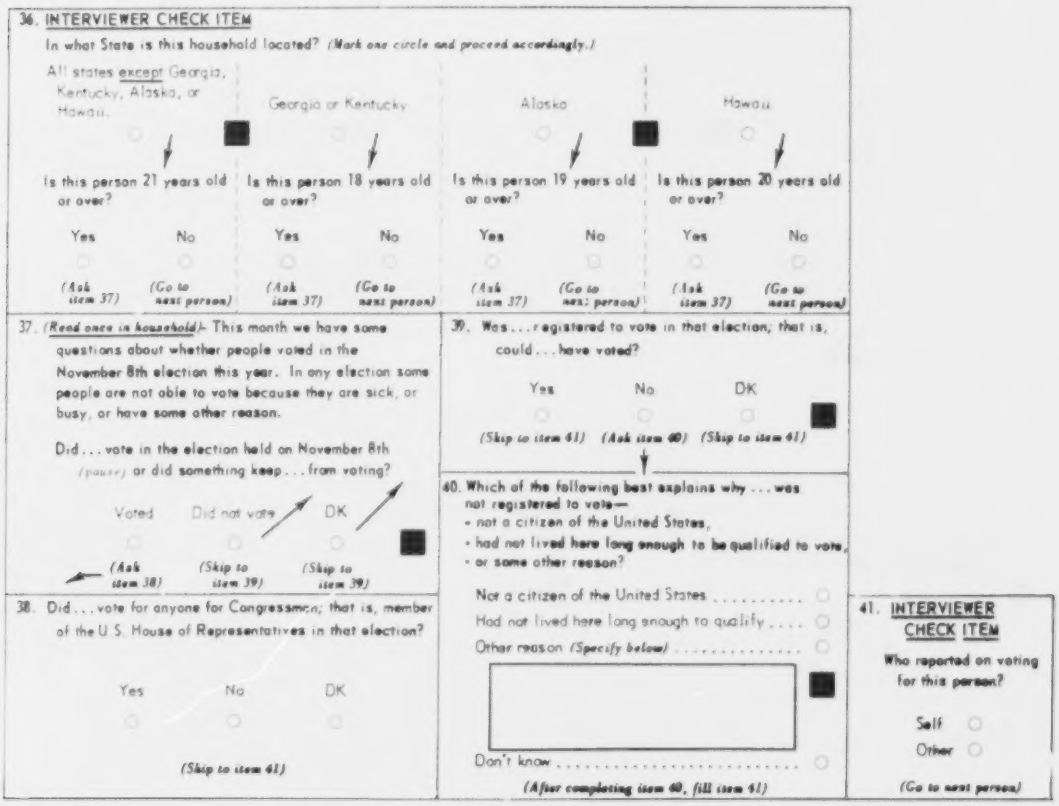
	1	2	3	4	5	6
College	0	0	0	0	0	0

37. Did. . .finish this grade?

Yes 0

No 0

Facsimile of November 1966 Supplemental Questionnaire



36. INTERVIEWER CHECK ITEM

In what State is this household located? *(Mark one circle and proceed accordingly.)*

All states except Georgia, Kentucky, Alaska, or Hawaii	Georgia or Kentucky	Alaska	Hawaii
Is this person 21 years old or over?	Is this person 18 years old or over?	Is this person 19 years old or over?	Is this person 20 years old or over?
Yes → *(Ask item 37)*	Yes → *(Ask item 37)*	Yes → *(Ask item 37)*	Yes → *(Ask item 37)*
No → *(Go to next person)*	No → *(Go to next person)*	No → *(Go to next person)*	No → *(Go to next person)*

37. *(Read once in household)* This month we have some questions about whether people voted in the November 8th election this year. In any election some people are not able to vote because they are sick, or busy, or have some other reason.

Did . . . vote in the election held on November 8th *(pause)* or did something keep . . . from voting?

Voted → *(Ask item 38)*

Did not vote → *(Skip to item 39)*

DK → *(Skip to item 39)*

38. Did . . . vote for anyone for Congressman; that is, member of the U. S. House of Representatives in that election?

Yes

No

DK

(Skip to item 41)

39. Was . . . registered to vote in that election; that is, could . . . have voted?

Yes *(Skip to item 41)*

No *(Ask item 40)*

DK *(Skip to item 41)*

40. Which of the following best explains why . . . was not registered to vote—
- not a citizen of the United States,
- had not lived here long enough to be qualified to vote,
- or some other reason?

Not a citizen of the United States . . . . . ○

Had not lived here long enough to qualify . . . . ○

Other reason *(Specify below)* . . . . . ○

Don't know . . . . . ○

(After completing item 40, fill item 41)

41. INTERVIEWER CHECK ITEM

Who reported on voting for this person?

Self ○

Other ○

(Go to next person)

Facsimile of November 1968 Supplemental Questionnaire

34. INTERVIEWER CHECK ITEM

In what State is this household located? *(Mark one circle and proceed accordingly)*

All states except Georgia, Kentucky, Alaska, or Hawaii	Georgia or Kentucky	Alaska	Hawaii
Is this person 21 years old or over?	Is this person 18 years old or over?	Is this person 19 years old or over?	Is this person 20 years old or over?
Yes — *(Ask 35)*	Yes — *(Ask 35)*	Yes — *(Ask 35)*	Yes — *(Ask 35)*
No — *(Go to next person)*	No — *(Go to next person)*	No — *(Go to next person)*	No — *(Go to next person)*

35. This month we have some questions about whether people voted in the recent Presidential election.

Did . . . vote in the election held on November 5th *(pause)* or did something keep . . . from voting?

Voted — *(Ask 36)*

Did not vote — *(Skip to 37)*

Don't know — *(Skip to 37)*

36. Did . . . vote for someone for President?

Yes — No — Don't know — *(Skip to 39)*

37. Was . . . registered to vote in that election?

Yes — *(Skip to 39)*

No — *(Ask 38)*

Don't know — *(Skip to 39)*

38. What was the main reason . . . was not registered to vote? *(Mark one circle)*

- Not a citizen of the United States
- Had not lived here long enough to be qualified to vote
- Not interested, just never got around to it, dislikes politics, etc.
- Unable to register because of illness, no transportation, couldn't take time off from work, etc.
- Other reason *(Specify below)*

[ ]

- Don't know

(Ask 39)

39. Thinking back to 1964, did . . . vote for someone for President that year?

Yes
No
Don't know — *(Fill 40)*

INTERVIEWER CHECK ITEM

40. Who reported on voting for this person?

Self
Other — *(Go to next person)*

Facsimile of November 1970 Supplemental Questionnaire

45. INTERVIEWER CHECK ITEM

In what State is this household located? *(Mark one circle and proceed accordingly)*

All states except Georgia, Kentucky, Alaska, or Hawaii	Georgia or Kentucky	Alaska	Hawaii
Is this person 21 years old or over?	**Is this person 18 years old or over?**	**Is this person 19 years old or over?**	**Is this person 20 years old or over?**
Yes — *(Ask 46)*	Yes — *(Ask 46)*	Yes — *(Ask 46)*	Yes — *(Ask 46)*
No — *(Go to next person)*	No — *(Go to next person)*	No — *(Go to next person)*	No — *(Go to next person)*

46. This month we have some questions about whether people voted in the recent Congressional election.
Did ... vote in the election held on November 3rd *(pause)* **or did something keep ... from voting?**

- Voted — *(Skip to 49)*
- Did not vote — *(Ask 47)*
- Don't know — *(Ask 47)*

47. Was ... registered to vote in that election?

- Yes — *(Skip to 49)*
- No — *(Ask 48)*
- Don't know — *(Skip to 49)*

48. What was the main reason ... was not registered to vote? *(Mark one circle)*

- Not a citizen of the United States
- Had not lived here long enough to be qualified to vote
- Not interested, just never got around to it, dislikes politics, etc.
- Unable to register because of illness, no transportation, couldn't take time off from work, etc.
- Other reason *(Specify below)*

[ ]

- Don't know

(Ask 49)

49. Thinking back to 1968, **did ... vote in the Presidential election that year?**

- Yes
- No — *(Fill 50)*
- Don't know — *(Fill 50)*

50. INTERVIEWER CHECK ITEM

Who reported on voting for this person?

- Self
- Other

(Go to next person)

Facsimile of November 1972 Supplemental Questionnaire

34. Interviewer Check Item

This person is 18 years old or older ○ *(Ask 35)*
All others ○ *(Go to next person)*

35. This month we have some questions about whether people voted in the November 7th Presidential election. In any election some people are not able to vote because they are sick or busy, or have some other reason, and others do not want to vote.

Did ... vote in the election held on November 7th?

Voted ○ *(Ask 36)* ■ Did not vote ○ / Don't know ○ *(Ask 38)*

36. Did ... vote for someone for President?

Yes ○
No ○ *(Ask 37)*
Don't know ○

37. At what time of day did ... vote?

Before 8 A.M. ○
8 A.M. to Noon ○
Noon to 4 P.M. ○
4 P.M. to 6 P.M. ○
After 6 P.M. ○
Don't know ○
Voted absentee ballot ○

(Skip to 41)

38. Was ... registered to vote in the November 7th election?

Registered ... ○ *(Skip to 40)*
Not Registered ○ *(Ask 39)*
Don't know ... ○ *(Skip to 41)*

39. What was the main reason ... was not registered to vote? *(Record response and mark one circle)*

■

Not a citizen of the United States ○ ■
Had not lived here long enough to be qualified to vote ○
Not interested, just never got around to it ○
Dislikes politics, did not prefer any of the candidates ○ *(Skip to 41)*
Unable to register because of illness, no transportation, couldn't take time off from work, etc. ○
Other reason ○
Don't know ○

40. What was the main reason...did not vote? *(Record response and mark one circle)*

Not interested, just never got around to it ○
Dislikes politics, did not prefer any of the candidates ○

• ■ • ■

Unable to vote because of illness, no transportation, couldn't take time off from work, etc. ○ *(Ask 41)*
Machines not working, lines too long, etc. ○
Out of town or away from home ○
Other ○
Don't know ○

41. Thinking back to 1968, did...vote for someone for President that year?

Yes ○
No ○
Don't know ○

(Fill item 42)

42. Interviewer Check Item

Who reported on voting for this person?

Self ○
Other ○ ■

Facsimile of November 1974 Supplemental Questionnaire

34. Interviewer Check Item

This person is 18 years old or older ○ *(Ask 35)*
All others ○ *(Go to next person)*

35. This month we have some questions about whether people voted in the November 5th congressional election. In any election some people are not able to vote because they are sick or busy, or have some other reason, and others do not want to vote.

Did . . . vote in the election held on November 5th?

Voted ○ *(Ask 36)* ■ Did not vote ○ *(Skip to 38)*
Don't know ○

36. Did . . . vote in person or by absentee ballot?

In person ○ *(Ask 37)*
Absentee ballot ○ *(Skip to 43)*
Don't know ○

37. At what time of day did . . . vote?

Before 8 A.M. ○
8 A.M. to Noon ○
Noon to 4 P.M. ○
■
4 P.M. to 8 P.M. ○
After 8 P.M. ○
Don't know ○

(Skip to 43)

38. Was . . . registered to vote in the November 5th election?

Yes ○ *(Skip to 40)*
No ○ *(Ask 39)*
Don't know ○ *(Skip to 41)*

39. There are many reasons people are not registered to vote.
What was the **MAIN** reason . . . was not registered to vote? *(Record response and mark one circle)*

COULD NOT REGISTER

Not a United States citizen ○
Had not lived here long enough to be qualified to vote ○
Recently moved here, haven't got around to registering ○
Permanent disability or illness ○
No transportation ○
Hours or place of registration inconvenient ○
Didn't know how or where to register ○

■

DID NOT WANT TO REGISTER

Dislikes politics in general ○
Did not prefer any of the candidates ○
Vote wouldn't matter anyway ○
Not interested, just didn't get around to it ○

Other reason ○
Don't know ○

(Skip to 41)

Facsimile of November 1974 Supplemental Questionnaire—Continued

40. There are many reasons people have for not voting in any election. What was the MAIN reason that . . . did not vote in the election of November 5th? *(Record response and mark one circle)*

COULD NOT VOTE

- Had no way to get to the polls
- Couldn't take time off from work
- The lines were too long, machines not working
- Was sick that day
- Sickness or emergency in family
- Have a permanent physical disability
- Didn't know an election was to be held
- Was away from home

DID NOT WANT TO VOTE

- Dislikes politics in general
- Did not prefer any of the candidates
- Vote wouldn't matter anyway
- Not interested, just didn't get around to it
- Other reason
- Don't know

→ *(Ask 41)*

41. Has . . . ever voted in a national, state, or local election?

- Yes → *(Ask 42)*
- No → *(Skip to 44)*
- Don't know → *(Skip to 44)*

42. When was the last time . . . voted?

- 1973 or later → *(Ask 43)*
- 1972 → *(Ask 43)*
- 1970 – 1971 → *(Skip to 44)*
- 1968 – 1969 → *(Skip to 44)*
- Before 1968 → *(Skip to 44)*

43. Thinking back to 1972, did . . . vote in the presidential election in that year?

- Yes → *(Ask 44)*
- No → *(Ask 44)*
- Don't know → *(Ask 44)*

44. How long has . . . lived at this address?

- Less than 1 month → *(Ask 45)*
- 1–3 months → *(Ask 45)*
- 4–6 months → *(Ask 45)*
- 7–11 months → *(Ask 45)*
- 1–2 years → *(Ask 45)*
- 3–5 years → *(Ask 45)*
- 6–9 years → *(Skip to item 46)*
- 10 years or more → *(Skip to item 46)*

45. Where did . . . live before . . . moved to this address? Was it in this county, in a different county in this state, or in a different state?

- Same county → *(Fill item 46)*
- Different county, same state → *(Fill item 46)*
- Different state → *(Fill item 46)*
- Outside U.S. → *(Fill item 46)*

46. Interviewer Check Item

Who reported on voting for this person?

- Self
- Other

Facsimile of November 1976 Supplemental Questionnaire

34. Interviewer Check Item

This person is 18 years old or older *(Ask 35)*
All others *(Go to next person)*

This month we have some questions about whether people voted in the November 2nd General election. In any election some people are not able to vote because they are sick or busy, or have some other reason, and others do not want to vote.

35. Did . . . vote in the election held on November 2nd?

Voted *(Ask 36)*
Did not vote
Don't know *(Skip to 38)*

36. Did . . . vote in person or by absentee ballot?

In person
Absentee ballot *(Ask 37)*
Don't know

37. Did . . . vote for someone for President?

Yes
No *(Skip to 43)*
Don't know

38. Was . . . registered to vote in the November 2nd election?

Yes *(Skip to 40)*
No *(Ask 39)*
Don't know *(Skip to 41)*

39. What was the main reason . . . did not register? Was it because . . . was unable to register, was not interested or was there some other reason?

UNABLE TO REGISTER

What was the main reason . . . was unable to register?
(Mark one circle)

- Not a United States citizen *(Skip to 46)*
- Had not lived here long enough to be qualified to vote
- Recently moved here, haven't had time
- Permanent illness or disability
- No transportation
- Hours or place of registration inconvenient
- Didn't know how or where to register
- Can't read English
- Other reason

(Skip to 41)

NOT INTERESTED

Which sentence best describes why . . . did not register this year?
(Show FLASHCARD and mark one circle)

- Did not prefer any of the candidates
- Politicians are not interested in my problems
- My vote would not make a difference in the election
- Just don't want to get involved in politics
- Not interested in the election this year
- Other reason

(Skip to 41)

OTHER REASON

What was the main reason . . . did not register?
(Mark one circle)

- Just didn't get around to it, or forgot
- Didn't know I had to
- Never do
- Other reason
- Don't know

(Skip to 41)

Facsimile of November 1976 Supplemental Questionnaire—Continued

40. What was the main reason . . . did not vote? Was it because . . . was unable to vote, was not interested or was there some other reason?

UNABLE TO VOTE

What was the main reason . . . was unable to vote?
(Mark one circle)

■ (Ask 41)
- Had no way to get to the polls
- Illness or emergency
- Couldn't take time off from work
- Lines too long, machines not working
- Out of town, or away from home
- Other reason

NOT INTERESTED

Which sentence best describes why . . . didn't vote this year?
(Show FLASHCARD and mark one circle)

■ (Ask 41)
- Did not prefer any of the candidates
- Politicians are not interested in my problems
- My vote would not make a difference in the election
- Just don't want to get involved in politics
- Not interested in the election this year
- Other reason

OTHER REASON

What was the main reason . . . did not vote?
(Mark one circle)

■ (Ask 41)
- Just didn't get around to it, or forgot
- Never do
- Other reason
- Don't know

41. Has . . . ever voted in a national, state, or local election?

- Yes ..... (Ask 42)
- No ..... (Skip to 45)
- Don't know (Skip to 45)

42. When was the last time . . . voted?

■
- 1975 or later (Ask 43)
- 1974 ..... (Skip to 44)
- 1972–1973 ..
- Before 1972 (Skip to 45)
- Don't know..

43. Did . . . vote earlier this year in a primary election to determine the candidate for Congress or President?

- Yes ..... (Ask 44)
- No .....
- Don't know

44. Thinking back to 1972, did . . . vote in the presidential election in that year?

- Yes ..... (Ask 45)
- No .....
- Don't know

45. How long has . . . lived at this address?

■ (Fill Item 46)
- Less than 1 month
- 1–6 months.....
- 7–11 months .....
- 1–2 years.....
- 3–5 years.....
- 6–9 years.....
- 10 years or more..

46. Interviewer Check Item

Who reported on voting for this person?

■
- Self
- Other

Facsimile of November 1978 Supplemental Questionnaire

40. INTERVIEWER CHECK ITEM

This person is 18 years or older ○ *(Ask item 41)*
All other persons ○ *(Go to next person)*

Lead in: This month we have some questions concerning registration and voting.

41. Is . . . a citizen of the United States?

Yes ○ *(Ask 42)*
No ○ *(Skip to 49)*
Don't know ○ *(Ask 42)* ■

42. In any election some people are not able to vote because they are sick or busy, or have some other reason, and others do not want to vote.
Did . . . vote in the election held on November 7th?

Voted ○ *(Ask 43)*
Did not vote ○ *(Skip to 44)*
Don't know ○ *(Skip to 44)*

43. Did . . . vote in person or by absentee ballot?

In person ○ *(Skip to 47)*
Absentee ballot ○ *(Skip to 47)*
Don't know ○ *(Skip to 47)*

44. Was . . . registered to vote in the November 7th election?

Yes ○ *(Skip to 46)*
No ○ *(Ask 45)*
• ■ Don't know ○ *(Skip to 47)* ■

45. What was the MAIN reason . . . was not registered to vote?

Recently moved here ○
Permanent illness or disability ○
Hours or place inconvenient ○
Other reason unable to register ○
Did not prefer any of the likely candidates ○
Not interested, don't care, etc. ○
Other reason ○
Don't know ○
(Skip to 47)
■

46. What was the MAIN reason . . . did not vote?

Had no way to get to the polls ○
Could not take time off from work ○
Out of town or away from home ○
Sick or family emergency ○
Did not prefer any of the candidates ○
Not interested, don't care, etc. ○
Other reason ○
Don't know ○
(Ask 47)
■

47. Thinking back to 1976, did . . . vote in the presidential election in that year?

Yes ○
No ○
Don't know ○
(Ask 48)

48. How long has . . . lived at this address?

Less than 1 month ○
1–6 months ○
7–11 months ○
1–2 years ○
3–5 years ○
6 years or longer ○
Don't know ○
(Fill 49)

49. INTERVIEWER CHECK ITEM:

Who reported for this person?

Self ○
Other ○

Facsimile of November 1980 Supplemental Questionnaire

28. INTERVIEWER CHECK ITEM *(cc item 18)*

This person is 18 years or older ○ *(Ask item 29)*
All other persons ○ *(Go to next person)*

LEAD-IN:
This month we have some questions concerning registration and voting.

29. Is . . . a citizen of the United States?

Yes ○ *(Ask 30)*
No ○ *(Skip to 39)*
Don't know ○ *(Ask 30)*

30. In any election some people are not able to vote because they are sick or busy, or have some other reason, and others do not want to vote.

Did . . . vote in the election held on November 4th?

Voted ○ *(Ask 31)*
Did not vote ○ *(Skip to 33)*
Don't know ○ *(Skip to 33)*

31. Did . . . vote in person or by absentee ballot?

In person ○ *(Ask 32)*
Absentee ballot ○ *(Ask 32)*
Don't know ○ *(Ask 32)*

32. Did . . . vote for someone for President?

Yes ○ *(Skip to 36)*
No ○ *(Skip to 36)*
Don't know ○ *(Skip to 36)*

33. Was . . . registered to vote in the November 4th election?

Yes ○ *(Skip to 35)*
No ○ *(Ask 34)*
Don't know ○ *(Skip to 36)*

34. What was the MAIN reason . . . was not registered to vote?

Recently moved here ○
Permanent illness or disability ○
Hours or place inconvenient ○
Other reason unable to register ○
Did not prefer any of the likely candidates ○
Not interested, don't care, etc ○
Other reason ○
Don't know ○
(Skip to 36)

35. What was the MAIN reason . . . did not vote?

Had no way to get to the polls ○
Could not take time off from work ○
Out of town or away from home ○
Sick or family emergency ○
Did not prefer any of the candidates ○
Not interested, don't care, etc ○
Other reason ○
Don't know ○
(Fill 36)

36. INTERVIEWER CHECK ITEM *(cc item 18)*

This person is 22 years or older ○ *(Ask item 37)*
All other persons ○ *(Skip to 38)*

37. Thinking back to 1976, did . . . vote in the presidential election in that year?

Yes ○ *(Ask 38)*
No ○ *(Ask 38)*
Don't know ○ *(Ask 38)*

38. How long has . . . lived at this address?

Less than 1 month ○
1–6 months ○
7–11 months ○
1–2 years ○
3–5 years ○
6 years or longer ○
Don't know ○
(Fill 39)

39. INTERVIEWER CHECK ITEM:
Who reported for this person?

Self ○
Other ○

Facsimile of November 1982 Supplemental Questionnaire

29. INTERVIEWER CHECK ITEM *(cc item 18)*

This person is 18 years old or older ☐ *(Ask item 30)*

All other persons ☐ *(Go to next person)*

30. Is . . . a citizen of the United States?

Yes ☐ *(Ask 31)*

No ☐ *(Skip to 33)* ■

Don't Know ☐ *(Ask 31)*

31. In any election some people are not able to vote because they are sick or busy, or have some other reason, and others do not want to vote.
Did . . . vote in the election held on November 2nd?

Voted ☐ *(Skip to 33)*

Did not vote ☐ *(Ask 32)*

Don't Know ☐ *(Ask 32)*

32. Was . . . registered to vote in the November 2nd election?

Yes ☐ ■

No ☐ *(Fill 33)*

Don't Know ☐ *(Fill 33)*

33. INTERVIEWER CHECK ITEM

Who reported for this person?

Self ☐

Other ☐

Facsimile of November 1984 Supplemental Questionnaire

SUPPLEMENTAL QUESTIONS

30. INTERVIEWER CHECK ITEM
Person is 18 years and older ... *(Fill 31)*
All others ... *(Go to next person)*

31. INTERVIEWER CHECK ITEM
Person responding for him/herself ... *(Read LEAD-IN and ask 32)*
All others ... *(Skip to 42 and read LEAD-IN)*

LEAD-IN: This month we have some questions concerning voting and registration.

32. Are you a citizen of the United States?
Yes ... *(Ask 33)*
No ... *(Go to next person)*

33. In any election, some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote.
Did you vote in the election on November 6th?
Yes ... *(Ask 34)*
No ... *(Skip to 35)*

34. At what time of day did you vote?
Before noon
Noon to 4 p.m.
4 p.m. to 6 p.m.
After 6 p.m.
Voted absentee
Don't know
(Fill 36)

35. Were you registered to vote in the November 6th election?
Yes ... DK
No

36. INTERVIEWER CHECK ITEM
First digit of SEGMENT number is:
1 or 5 ... *(Fill 37)*
2, 3, 4, 6, 7 or 8 ... *(Skip to 40)*

37. INTERVIEWER CHECK ITEM
"Yes" filled in item 33 ... *(Ask 38)*
All others ... *(Skip to 39)*

38. Before you voted on election day, did you hear any media announcement of the projected winner of the Presidential election?
Yes
No *(Skip to 40)*
DK

39. Before 6 p.m. local time on election day, did you hear any media announcement of the projected winner of the Presidential election?
Yes
No *(Fill 40)*
DK

40. INTERVIEWER CHECK ITEM
Person is
22 years and older ... *(Ask 41)*
All others ... *(Go to next person)*

41. Thinking back to 1980, did you vote in the Presidential election in that year?
Yes
No *(Go to next person)*
DK

LEAD-IN: This month we have some questions concerning voting and registration.

42. Is ... a citizen of the United States?
Yes ... *(Ask 43)*
No ... *(Go to next person)*
DK ... *(Ask 43)*

43. In any election some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote.
Did ... vote in the election on November 6th?
Yes ... *(Ask 44)*
No *(Skip to 45)*
DK

44. At what time of day did ... vote?
Before noon
Noon to 4 p.m.
4 p.m. to 6 p.m.
After 6 p.m.
Voted absentee
Don't know
(Fill 46)

45. Was ... registered to vote in the November 6th election?
Yes ... DK
No

46. INTERVIEWER CHECK ITEM
Person is
22 years and older ... *(Ask 47)*
All others ... *(Skip to 48)*

47. Thinking back to 1980, did ... vote in the Presidential election in that year?
Yes
No
DK

48. INTERVIEWER CHECK ITEM
First digit of SEGMENT number is:
1 or 5 ... *(Ask items 49–53 of sample person. Arrange for callback if necessary.)*
2, 3, 4, 6, 7 or 8 ... *(Go to next person)*

49. In any election some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote.
Did you vote in the election on November 6th?
Yes ... *(Ask 50)*
No ... *(Skip to 51)*

50. At what time of day did you vote?
Before noon
Noon to 4 p.m.
4 p.m. to 6 p.m.
After 6 p.m.
Voted absentee
Don't know
(Skip to 52)

51. Were you registered to vote in the November 6th election?
Yes
No *(Ask 53)*
DK

52. Before you voted on election day, did you hear any media announcement of the projected winner of the Presidential election?
Yes
No *(Go to next person)*
DK

53. Before 6 p.m. local time on election day, did you hear any media announcement of the projected winner of the Presidential election?
Yes
No *(Go to next person)*
DK

Facsimile of November 1986 Supplemental Questionnaire

SUPPLEMENTAL QUESTIONS

32 INTERVIEWER CHECK ITEM

Person is
18 years or older — *(Ask 33)*
All others — *(Go to supplement questions for next person)*

33 LEAD-IN: This month we have some questions concerning voting and registration . . . . . is . . . a citizen of the United States?

Yes — *(Ask 34)*
No — *(Skip to 36)*
DK — *(Ask 34)*

34 In any election some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote.
Did . . . vote in the election on November 4th?

Yes — *(Skip to 36)*
No
DK — *(Ask 35)*

35 Was . . . registered to vote in the November 4th election?

Yes
No — *(Fill 36)*
DK

36 INTERVIEWER CHECK ITEM

Person responding for him/herself — *(Go to supplement questions for next person)*
All others

Facsimile of November 1988 Supplemental Questionnaire

32. INTERVIEWER CHECK ITEM *(C.C. item 18)*

This person is 18 years or older ☐ *(Ask item 33)*

All others ☐ *(Skip to item 38)*

LEAD-IN: This month we have some questions concerning voting and registration.

33. Is . . . a citizen of the United States?

Yes ☐ *(Ask 34)*

No ☐ *(Skip to 38)*

Don't know ☐ *(Ask 34)*

34. In any election some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote.

Did . . . vote in the election held on November 8?

Yes ☐ *(Skip to 36)*

No ☐ *(Ask 35)*

Don't know ☐ *(Ask 35)*

35. Was . . . registered to vote in the November 8th election?

Yes ☐ *(Ask 36)*

No ☐ *(Skip to 38)*

Don't know ☐ *(Skip to 38)*

36. Did . . . register specifically for this election or was . . . already registered?

Registered for this election ☐ *(Ask 37)*

Already registered ☐ *(Skip to 38)*

37. Was this the first time . . . ever registered?

Yes ☐

No ☐ *(Fill item 38)*

Don't know ☐

40. INTERVIEWER CHECK ITEM

Who reported for this person?

Self ☐

Other ☐

Estimating Voter Turnout in the Current Population Survey

Jerry T. Jennings, Bureau of the Census

Analysts of election data have long lamented the difference between so-called "official" counts of votes cast in an election and results from household surveys, which also purport to measure voter turnout. Typical of the difference is the 91.6 million votes reported by the Clerk of the U.S. House of Representatives for the 1988 Presidential election versus 102.2 million reported voters in the November 1988 Current Population Survey (CPS).

This paper analyzes the problem of overestimating voter turnout in household surveys at the national and State level using estimates of turnout reported by respondents in the Census Bureau's Current Population Survey (CPS). The data base used as the standard of comparison for CPS estimates is the official count of votes for President as reported to Congress by the Clerk of the House. Overestimation of voting is computed as the percent difference between the CPS estimate of the number of voters and the official count of votes cast in an election (table A).

The paper first compares overestimation in the Presidential elections of 1980, 1984, and 1988 for the United States, regions and States. Then, the paper discusses changes in the geographical distribution of overestimation in these three Presidential election years. Because there is no single candidate for which all citizens are eligible to vote in non-Presidential election years, and the fact that some states do not report total votes cast, comparable information on turnout among different States is unavailable in non-Presidential election years. Conseqently no analysis is attempted for those years.

After discussing geographical differences in overestimating voting and the changes noted in the overestimates over time, a multivariate analysis is used to examine the relationship between selected socioeconomic characteristics of States and their rates of net overestimation. These macro-level relationships will be examined in light of other researchers' findings from various voter validation studies that use the individual as the unit of analysis. A concluding section will discuss the implications of our findings on overestimation for recent trends in voting patterns as previously analyzed in Census Bureau reports.

Problems in Self-Reported Voting

Always substantial, discrepancies between survey estimates and official counts in recent years have increased to the extent that the 1988 CPS estimate of turnout was 11 percent higher than the official count of votes (table A). In the first CPS surveys in the 1960's, overestimates of voting were about 8 or 9 percent. Despite discrepancies as large as recorded in 1988, surveys remain an important analytical tool in election studies because they identify the characteristics of people who vote or do not vote.

That discrepancies arise in estimating voter turnout is almost inevitable given the difference in the units of tabulation. The "official count" tabulated by each State's board of elections shows the number of votes counted for specific offices. Because in any election voters typically vote for more than one office, the total number of voters in each State is approximated by the office receiving the highest number of votes. In Presidential election years, it is always the office of President. These official turnout figures for the office of President may be less than the actual number of persons going to the polls because ballots may have been mismarked or they may not have included a vote for a candidate for President (altogether about 1.3 percent in 1988).[1]

Household surveys, on the other hand, estimate the number of people who voted and registered to vote from direct interviews with household respondents. In Census Bureau surveys, reports of voting behavior are sometimes made by other adult members of the household ("proxy" respondents) as well as by designated respondents. If some persons misreport their voting or that of other household members, studies show that surveys will produce higher estimates of turnout than the count of votes indicates. It has long been assumed that substantial misreporting by household respondents accounts for most of the differences between survey estimates and official vote figures. In this paper, we will discuss a number of other factors as well as respondent misreports that contribute to the discrepan-

Table A.
Comparison of CPS Voting Estimates and Official Counts in Presidential Election Years: November 1964 to 1988

(Numbers in thousands)

Year	Official vote for President		CPS estimate		Difference	
	Number	Turnout rate	Number	Turnout rate	Number	Turnout rate
1988	91,587	50.1	102,224	57.4	10,637	11.6
1984	92,655	53.1	101,878	59.9	9,223	10.0
1980	86,497	52.6	93,066	59.2	6,569	7.6
1976	81,603	53.6	86,698	59.2	5,095	6.2
1972	77,625	55.1	85,766	63.0	8,141	10.5
1968	73,212	60.9	78,964	67.8	5,752	7.9
1964	70,645	61.9	76,671	69.3	6,026	8.5

Source: Current Population Reports, Series P-20 No. 440, 405, 370, 322, 253, 192, and 143, and Series P-25, No. 1059.

[1]Nonvoter Study '88–89 of the Committee for the Study of the American Electorate, Washington, DC.

cy between CPS estimates of turnout and official counts.

Misreporting by respondents. Since the Bureau began the voting supplement to the CPS in 1964, a number of efforts have been made to identify and reduce misreporting.[2] In the first survey in 1964, a subsample of households was reinterviewed by the supervisory field staff. While the reinterview showed overall consistency in reporting on voting, this may have been in part because the reinterviewer usually talked with the same household respondent as originally interviewed the previous week, who may have repeated any earlier misreports. In 1972, a test was conducted of the hypothesis that by asking the presumably less sensitive question on registration first, any tendency to overreport on voting might be lessened. Results for those who reported on voting indicated that reversing the question order did not reduce the proportion of persons who reported that they had voted.[3]

Use of proxy respondents. Another perennial concern with respondent reports of voting in the CPS is the fear that proxy respondents might report that an absent household member had voted when in fact the person had not. In the voting supplement to the November 1974 CPS, for approximately one-eighth of the sample households, interviewers were instructed to obtain the voting supplement information directly from each individual. The differences in turnout between groups reporting for themselves (47 percent) or by someone else (48 percent) were not significant. Thus, this test yielded no evidence that proxy reporting accounted for any part of the overestimate of voting.[4]

In the November 1984 survey, respondents in two outgoing rotation groups whose voting and registration had been previously reported by another house-

Table B.
Overrestimating Voting in the CPS in Presidential Elections, 1980 to 1988, for Regions and Divisions

(Numbers in thousands)

Region and division	Clerk of House	Current Population Survey	Percent difference
1988			
United States	91,587	102,224	11.6
Northeast	19,851	21,744	9.5
New England	5,729	6,160	7.5
Middle Atlantic	14,122	15,584	10.4
Midwest	24,663	27,259	10.5
East North Central	16,983	18,856	11.0
West North Central	7,680	8,403	9.4
South	28,557	33,094	15.9
South Atlantic	14,234	16,704	17.4
East South Central	5,269	5,960	13.1
West South Central	9,054	10,430	15.2
West	18,515	20,126	8.7
Mountain	5,007	5,593	11.7
Pacific	13,508	14,533	7.6
1984			
United States	92,655	101,878	10.0
Northeast	20,483	21,994	7.4
New England	5,613	5,861	4.4
Middle Atlantic	14,870	16,133	8.5
Midwest	25,457	27,679	8.7
East North Central	17,629	19,201	8.9
West North Central	7,828	8,478	8.3
South	28,834	32,696	13.4
South Atlantic	14,125	15,699	11.1
East South Central	5,464	6,473	18.5
West South Central	9,245	8,478	8.3
West	17,883	19,508	9.1
Mountain	4,732	5,295	11.9
Pacific	13,151	14,213	8.1
1980			
United States	86,497	93,066	7.6
Northeast	19,206	20,758	8.1
New England	5,466	5,935	8.6
Middle Atlantic	13,740	14,821	7.9
Midwest	25,178	27,328	8.5
East North Central	17,459	18,931	8.4
West North Central	7,719	8,397	8.8
South	25,809	28,102	8.9
South Atlantic	12,582	13,706	8.9
East South Central	5,148	5,778	12.2
West South Central	8,079	8,620	6.7
West	16,308	16,879	3.5
Mountain	4,340	4,594	5.9
Pacific	11,968	12,285	2.6

Source: Table 1 of this paper.

[2]For a comprehensive discussion of the overreporting problem, including a comparison of the 1964 Bureau of the Census survey and that of the Survey Research Center of the University of Michigan, see Aage R. Claussen (1968–69).

[3]Current Population Reports, Series P-20, No. 253 (1973).

[4]Current Population Reports, Series P-20, No. 293 (1976).

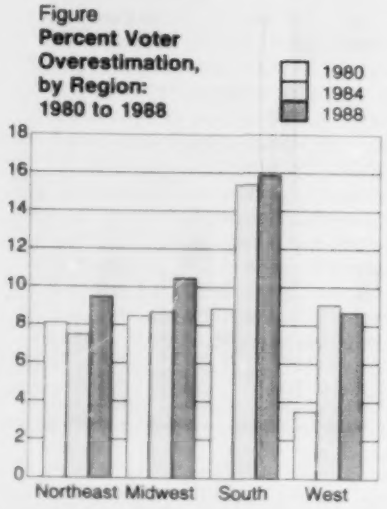
hold member were followed up by the interviewer and asked the voting and registration questions directly.[5] Results of this test showed that among persons for whom reinterviews were obtained, 99 percent who had been reported by another household member as having voted also reported for themselves that they voted; further, 99 percent of the followup interviews that initially reported that the respondent did not vote confirmed the report. Thus, the 1984 proxy verification test confirmed the 1974 finding that misreports by proxy respondents do not account for the discrepancy between CPS estimates of turnout and official counts of the number of votes.[6]

Because different population groups may exhibit different levels of estimation and reporting errors, and until ways are found to eliminate the effects of these errors on survey estimates of voter turnout, estimates of change for any group will be unreliable. Therefore, this report turns to examination of variation in the regional distribution of overestimation and attempts to evaluate the effects of survey population coverage and controls on CPS voter turnout estimates. Then, using regression techniques, socioeconomic characteristics of States which are consistently associated with high overestimates of voting are identified and analyzed.

The Geography of Overestimation

Population coverage. Inaccuracies in the coverage of the population by the survey may affect a survey estimate of voters. If the CPS sample is less successful in enumerating groups with traditionally low turnouts, (e.g., transients and illegal aliens), then, although the sample is weighted to correctly represent overall age, sex, and race distributions, the survey respondents may overrepresent population groups more likely to vote.[7] Further, the CPS results are adjusted to independent population estimates based on the decennial census and to the extent that the census is subject to undercounts in selected groups or geographic areas, this source of error will be reflected in estimates from the CPS.

Figure
Percent Voter Overestimation, by Region: 1980 to 1988



Regional distribution of overestimation. In the Presidential elections of 1988 and 1984 the South led all other regions in overestimation error in the CPS, 15.9 percent in 1988, 13.4 percent in 1984; in 1980 the South's 8.9 percent overestimate exceeded only that in the West, the lowest of any region in 1980 (table B). Overestimation of voting in the Northeast has ranged from about 7 to 10 percent and in the Midwest, between 9 and 11 percent. Between 1980 and 1988, the highest percentage point increases in overestimating occurred in the South and the West, while less change has been noted in the Northeast and Midwest (table B).

Since 1980, population shifts have led to an increasing proportion of the voting age population living in the South and the West, compared with the remainder of the U.S. Between 1980 and 1988. The voting age population in the South increased by 20 percent and in the West by 23 percent; low growth was noted for the Northeast (7 percent) and the Midwest (4 percent) census regions (table C). This population growth since 1980 has led to an increase in the proportion of all U.S. voters living in the South (from 29.8 percent in 1980 to 31.2 percent in 1988) and in the West (from 18.9 to 20.2 percent), while the Midwest has lost voters (from 29.1 to 26.9 percent); about 22 percent of voters have lived in the Northeast at each Presidential election since 1980 (table B, Clerk of the House figures).

Shifts in the regional distribution of overestimates of voting corresponded to these population changes and levels of regional overestimating (table D). The South, which accounted for 34.9 percent of the 6.6 million overestimate in voting in the CPS in 1980, increased its share to 42.7 percent in 1988. Between 1980 and 1988, the share of voter overestimates attributable to the West doubled from 8.7 of the total in 1980 to 17.6 percent in 1984, then dropped to 15.1 percent for the 1988 election.

The proportion of total overestimation dropped between 1980 and 1988 both in the Midwest (from 32.7 to 24.4 percent) and in the Northeast (from 23.6 to 17.8 percent).

Table C.
Change in Voting-Age Population, by Region: 1980 to 1988

(Numbers in thousands)

Region	Voting-age population		Percent increase, 1980-88
	1988	1980	
Northeast	37,874	35,500	+ 6.7
Midwest	43,309	41,542	4.3
South	60,725	50,561	20.1
West	36,190	29,483	22.7

Source: Current Population Reports, Series P-20, No. 440, tables C and A-2.

[5]The Current Population Survey is divided into eight representative components or "rotation groups." Each month two rotation groups move out of the survey and are replaced by two new incoming groups.

[6]Current Population Reports, Series P-20, No. 405 (1986).

[7]See U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 440, for an evaluation of the quality of CPS data on voting and registration.

Table D.
Regional Distribution of Overestimation in the Current Population Survey: 1980 to 1988

(Numbers in thousands)

Region	1988	1984	1980
United States	10,637	9,223	6,569
Northeast	1,893	1,511	1,550
Midwest	2,596	2,222	2,150
South	4,537	3,862	2,293
West	1,611	1,625	571
Percent Distribution			
United States	100.0	100.0	100.0
Northeast	17.8	16.4	23.6
Midwest	24.4	24.1	32.7
South	42.7	41.9	34.9
West	15.1	17.6	8.7

Source: Derived from table B of this report. Numbers represent the difference between CPS and Clerk of the House voter turnout.

Effects of population controls. Part of the sizeable increases in overestimation that occurred in the South and West between 1980 and 1988 may have resulted from the introduction of population controls based on the 1980 census. These new controls resulted in an increase in the estimated voting-age population nationwide of almost 3 percent. As table E shows, 1980 census based estimates of the voting age population (VAP) in the South and West for November 1980 are clearly higher than the projections which used 1970 census based controls. These differences in controls affect the CPS estimates of voters because the November 1980 CPS used 1970 census based controls, while the November 1984 and 1988 CPS supplements used 1980 census based controls.

The change in census based controls resulted in a disproportional increase in the CPS estimate of the voting-age population in the South and West after 1980. This increase in the voting-age population for these regions for 1984 and later years translated, in turn, into a sharp increase in the CPS estimate of total voters for 1984 and 1988, compared with official vote counts.

Column 3 of table F shows the approximate percent increase between 1980 and 1988 in CPS estimates of regional turnout after adjusting the 1980 CPS voting age population to correspond with 1980 census based estimates.[8] Clearly, the adjusted percentage increases are closer to observed changes in the official count, supporting the contention that a substantial part of the observed increase in CPS overestimation of turnout in the South and West between 1980 and 1988 occurred as a result of the changeover from 1970 census to 1980 census based population estimates.

State distribution of overestimation. Among States, variation in the level of overestimating turnout reached as high as 30 percent in each of the election years 1988, 1984, and 1980. Only Alaska showed consistent net underestimating in CPS (table 1)[9]. In addition, a high level of consistency in the ordering of States from high to low levels of overestimation was found; that is, States with high overestimation rates in one election generally had high rates in other years.

Since voting in the CPS is tabulated by the person's residence at the survey date and not according to the State in

[8]For example, November 1980 population estimates for the South based on 1980 census controls are 5 percent higher than those based on 1970 census controls as indicated in the text tables. If the November 1980 CPS had used the 1980 census-based controls, there would have been about 5 percent more more Southern voters (29.5 million) estimated by this survey (versus 28.1 million as reported in table B). This would have resulted in a 12.1 percent increase in CPS voter turnout between 1980 and 1988 for the South instead of the 17.8 percent calculated from table B.

[9]Because Alaska has had a small, rapidly growing population, estimates and projections have consistently understated its voting age population, one result of which is an apparent underreporting of voting in the CP's. See the article by Jeffrey Passel in this issue, which discusses the effects of different population estimates on measures of voter turnout.

Table E.
Change in Voting-Age Population: 1970 vs. 1980 Census Controls

(Numbers in thousands)

Region	Projections of November 1980 voting-age population (1970 census controls)	Estimates of November 1980 voting-age population (1980 census controls)	Percent difference
United States	160,491	164,595	2.6
Northeast	36,061	36,287	0.6
Midwest	42,066	42,194	0.3
South	51,945	54,556	5.0
West	30,418	31,558	3.7

Source: Current Population Reports, Series P-25, No. 879, for 1970 census-based projections and Series p25, No. 1019, for post-1980 census-based estimates.

Table F.
Percent Change in Number of Voters: 1980 to 1988

Region	Clerk of the House	CPS estimates	
		Unadjusted	Adjusted
United States	5.9	9.8	7.1
Northeast	3.4	4.8	4.1
Midwest	-2.0	-0.3	-0.6
South	10.6	17.8	12.2
West	13.5	19.2	15.0

Table G.
Regression Equations for Analyzing the Percentage Point Difference in Overestimation of Voting in the CPS
(Standard errors shown in parenthesis)

Survey date	Intercept	South	Percent Black	Per capita income	Percent voting	Percent high school graduate	Adjusted R-square
1988	**32.390	-3.096	**.408	**-.606	-.160	-.089	.479
	(11.321)	(2.239)	(.107)	(.248)	(.121)	(.129)	
1984	**44.364	-3.307	**.373	**-1.980	**-.331	.096	.515
	(12.475)	(2.419)	(.133)	(.411)	(.125)	(.152)	
1980	**30.972	**-4.652	**.330	-.964	-.074	-.169	.328
	(11.518)	(2.269)	(.122)	(.621)	(.105)	(.157)	

**Significant at the .05 level.
South = A dummy variable with a value of 1 for States in the South and 0 for all other States.
Per capita income = Mean per capita personal income for State in thousands of dollars.
Percent voting = Votes for President as percent of resident voting-age population.
Percent Black from CPS for each year.
Percent high school graduate = Percent of State population 25 years and over who completed 4 years of high school or more (1980 census estimates).

which his or her vote is cast, some regional- and State-level variation in overestimation may be due to a difference between actual and voting residence. For example, if a State has a large population whose voting residence may be elsewhere, i.e., Washington, DC, overestimates may occur in the survey since the person is tallied as voting in the area where he or she resides at the time of the survey and not where the voting actually occurs. While this may explain some regional variation, it cannot address the problem of overestimation at the national level.

Socioeconomic Correlates of Overestimation

Not all error in estimating turnout in CPS is the result of population controls or survey coverage. Studies that match survey responses with voting records clearly indicate that a significant part of the discrepancy between survey estimates and offical counts is the result of respondent misreporting (Traugott and Katosh, 1979). Thus, while assessing regional changes in overestimation is important in identifying geographic areas where overestimation is high, it provides only indirect information on the characteristics of persons who misreport their electoral behavior and next to nothing about their reasons for doing so. Information on misreporters would be best obtained by matching actual voting records with a sample of CPS respondents, a project which would involve many technical problems in addition to being very costly. However, other methods can indirectly shed light on this topic. In this paper, we have correlated overestimates of voting in the CPS with selected socioeconomic summary measures for States. The results suggest a socioeconomic component to the overestimates, but because states rather than persons were used in the regression equations, the transferability of the results from observed statistical relationships to actual behavioral analysis cannot be conclusive.

Variables and data sources. Two socioeconomic variables which previous studies have shown to be related to misreporting of voting and for which State estimates exist for each of the Presidential elections between 1980 and 1988 are race and income.[10] Table G shows the regression for State differences in overestimation. The regressions include observations for all 50 States. Because of the unusual population base of the District of Columbia where voting out of State may be quite common among Congressional staff and military personnel living in the city, Washington, DC, was not included in the regressions.

[10]See for example, Hill and Hurley (1984) and Traugott and Katosh (1979).

The dependent variable in the regression was the percent difference between the CPS estimate of turnout for States and turnout as recorded by the Clerk of the House. The independent variables include the percent Black and per capita personal income for each State, a dummy variable for whether the State is located in the South, the States' official turnout rate, included to control for the potential level of overreporting in each State, and the percent of States' population 25 years and over with 12 or more years of school completed.

Data on the percentage Black for each State was estimated from the CPS supplements for the election years of 1980, 1984, and 1988. Voter rates for each state are derived from the Clerk of the House vote tallies and 1980 census-based population estimates and projections for each election year. Per capita income figures are derived from the U.S. Bureau of Economic Analysis's *Survey of Current Business*, while the percentage of States' population who had at least a high school education are from the 1980 census. Unfortunately, reliable State level educational indicators are only available during census years, so this indicator for 1980 was used for all three election regressions in this paper.

Overall results. The adjusted R-square values in table G measure the

portion of the variation in States' overestimate of turnout in each Presidential election year explained by the regression. In 1988 and 1984, the R-square values were about .50, indicating that the variables in the regression accounted for about half of the variation in net overestimation for those states for those election years. In 1980, the regression accounted for only about one-third of the variation in overestimation.

South-non-South differences. While table B shows that overestimation was higher in the South than in the remainder of the United States in 1984 and 1988, the regression equations (table G) indicate that after standardizing for important socioeconomic variables such as percent Black and income, the overestimate of turnout was no greater in Southern States than in the remainder of the nation in 1984 and 1988 and that it was actually greater outside the South in 1980.

Abramson and Claggett, (1984) using person-level data, found that in 3 of the 4 Social Research Council-Center for Political Studies (SRC-CPS) surveys of 1964, 1976, 1978, and 1980, ". . . southern blacks were more likely to overreport voting than were blacks outside the South" (p. 721). On the other hand, results reported by Anderson, Silver, and Abramson (1988) indicate that both White and Black nonvoters in the South were less likely to overreport voting than their counterparts outside the South (p. 61).

Race and income. Higher overestimating in each of the elections was significantly associated with States which recorded relatively higher proportions of the electorate being Black. Higher levels of overestimating were also related to low levels of per capita income both in 1988 and 1984; in 1980, although the association was negative, it failed to pass the 10-percent level of significance. A similar association between race and overreporting has been observed by Traugott and Katosh (1979), Katosh and Traugott (1981), Sigelman (1982), Abramson and Claggett (1984) and Hill and Hurley (1984). Other studies (Silver, Anderson, Abramson, 1986), however, have found that the characteristics associated with the likelihood of voting are also those associated with a high probability of misreporting, e.g., being White, having high income or education.

Actual turnout. The official voter turnout was included in the equations to control for interstate differences in the population at risk of misreporting.[11] In theory, the higher the official voter turnout, the lower the potential for overestimation since the population at risk of misreporting will be reduced. For each year, overestimation appeared to be less likely in States where official turnout was relatively high, as expected, but only in 1984 was the overestimate significantly higher in States with low voter turnout.

Education. Educational attainment, measured by the percentage of each State's population 25 years old and over reported in the 1980 census as having completed at least 4 years of high school had no significant relationship with the overestimation of voting in any of the elections. Traugott and Katosh (1974) found a similarly low association between educational level of respondents and misreporting of voting in the voter validation studies from the 1976 and 1978 elections. This is in marked contrast with Silver, Anderson, and Abramson (1986), who found overreporting positively related to education, noting that ". . . college graduates were the most likely to overreport voting, and those who had not finished high school were the least likely to overreport voting" (p. 615).

A number of other studies (Hill and Hurley (1984); Anderson and Silver (1986); Sigelman (1982); and Abramson and Claggett (1989)) also found an association between education and overreporting of voting. The authors suggest that more highly educated people are likely to overreport since they feel they are expected to vote—so instead of admitting that they did not vote, they claim that they did in order to live up to the expectations placed on them in an interview situation. The general consistency of the relationship between education and overreporting in these studies suggests that lack of a relationship between overestimation of voting and education background in this CPS study may have resulted from the crudeness of the measure used in the analysis (percent high school graduate by State in 1980) and use of the same measure for 1984 and 1988 as for 1980.

[11] For a discussion of the population at risk of overreporting on voting and the effects of the marginal distribution of actual voters and nonvoters on the propensity to misreport voting, see Anderson and Silverman (1986).

Conclusion

This paper analyzed the regional and socioeconomic differences in overestimation of turnout in the Presidential elections of 1980, 1984, and 1988 in the CPS. Overestimation of voting in the CPS, compared with official turnout figures, stood at 12 percent in 1988, up from 8 percent since the 1980 election. By and large, States have been consistent in their overestimation patterns; that is, states that have high overestimation in one election tend to have high overoverestimation in other election years, although the level of overestimating has increased in recent years. Further, as the share of the voting age population and voters living in the South and West increased over the past decade, the overestimate has tended to increase in these areas faster than in other regions of the country.

Some of this increase since 1980, especially in the South and West, was the result of switching from 1970 to 1980 census-based population controls in the CPS after the 1980 survey was taken. Survey estimates of voters in 1980 (based on 1970 census controls), although still higher than official counts, were lower than they would have been if 1980 census-based controls had been incorporated into the survey design.

Although the simple aggregate figures have consistently indicated that states in the South generally have the highest

rates of overestimation in CPS voting supplements, when the effects of race and State income levels are held constant, net overestimation tends to be no higher for southern States than for those outside the South. In fact, in 1980 with income and race held constant, the overestimate was significantly less in the South than in other regions.

The intuitive suspicion that States with low actual turnout, and thus more potential to overestimate voting, would have higher rates of actual overestimation was confirmed only for 1984 (table G).

Although education is one of the most significant variables affecting turnout, no evidence was found in this study linking our measure of educational attainment (percent high school graduate as reported in the 1980 census) with overestimation of turnout in the CPS.

Implications of the Study

Results of this study, if borne out by rigorous matching of respondent reports and voting records, would tend to compromise recent observations in CPS reports which note the general narrowing of the observed gap in turnout rates among race groups since the 1970's. However, because the association studied here uses States as the level of analysis, no such conclusions can be firmly established. Other studies, however, do report that racial differences in turnout persist or even increase among respondents who have had their voting records validated. Katosh and Traugott (1981) in their matching study of the 1976 and 1978 elections note that they ". . . do not find any major changes in the fundamental nature of the basic relationships that have been observed . . ." even if only the responses of the validated voters are studied.

Given the consistent findings on overestimation and overreporting by race found both in previous person-level studies and in the aggregate analysis undertaken in this report, it may well be that the apparent narrowing of the voting gap between Whites and Blacks has been exaggerated in recent CPS reports. In other words, differences in voter turnout between the White and Black populations, and between economically rich and poor Americans, could be greater than measured in the CPS. Similarly, Abramson and Claggett (1984, 1986) found that racial differences in turnout remained strong over time among validated voters (p. 416). Hill and Hurley (1984) found that the turnout gap between Whites and Blacks actually increased more over time among validated voters.

In the past, many analysts have assumed a reluctance to admit dereliction in civic duty as the likely reason people say they voted when they did not. The association noted in this study of high overestimation in States with either a high proportion of their population Black or with a low per capita income, characteristics associated with lower socioeconomic status and lower levels of social participation, suggests that a reluctance to admit being outside the mainstream of American culture may be as strong a motivator to misreport as the desire to exhibit civic responsibility.

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Table 1.
Comparison of CPS Voting Estimates and Official Counts of Votes Cast, by State: November 1988, 1984, and 1980

State	Clerk of the House[1]			Current Population Survey			Percent difference					
	1988	1984	1980	1988	1984	1980	1988	Standard error	1984	Standard error	1980	Standard error
United States	91,587	92,655	86,497	102,224	101,878	93,066	11.6	0.5	10.0	0.4	7.6	0.3
Alabama	1,378	1,442	1,342	1,668	1,697	1,485	21.0	4.1	17.7	4.8	10.7	4.6
Alaska	200	208	158	190	191	143	-5.0	3.2	-8.2	3.6	-9.5	6.6
Arizona	1,172	1,026	874	1,358	1,178	937	15.9	3.8	14.8	5.3	7.2	5.5
Arkansas	828	884	838	960	992	888	15.9	3.9	12.2	5.1	6.0	5.3
California	9,887	9,505	8,583	10,569	10,346	8,854	6.9	1.9	8.8	1.9	3.2	1.7
Colorado	1,372	1,295	1,184	1,563	1,381	1,257	13.9	3.2	6.6	4.5	6.2	4.4
Connecticut	1,443	1,467	1,406	1,571	1,522	1,539	8.9	3.3	3.7	4.5	9.5	4.4
Delaware	250	255	236	284	261	251	13.6	3.6	2.4	5.1	6.4	8.1
District of Columbia	193	211	174	242	253	227	25.4	4.8	19.9	6.3	30.5	11.4
Florida	4,302	4,180	3,687	5,151	4,439	3,732	19.7	1.8	6.2	3.0	1.2	2.6
Georgia	1,810	1,776	1,597	2,255	2,153	1,894	24.6	4.3	21.2	4.8	18.6	4.4
Hawaii	354	336	303	409	378	337	15.5	4.0	12.5	5.6	11.2	7.8
Idaho	409	411	437	428	449	439	4.6	3.1	9.2	4.8	0.5	5.7
Illinois	4,559	4,819	4,750	5,081	5,518	5,270	11.4	1.8	14.5	2.8	10.9	2.4
Indiana	2,169	2,233	2,242	2,454	2,431	2,355	13.1	3.5	8.9	3.9	5.0	3.5
Iowa	1,226	1,320	1,318	1,291	1,422	1,410	5.3	3.1	7.7	4.5	7.0	4.5
Kansas	993	1,022	980	1,075	1,096	1,087	8.3	3.2	7.2	5.0	10.9	5.0
Kentucky	1,323	1,369	1,296	1,331	1,549	1,402	0.6	3.9	13.1	5.3	8.2	4.7
Louisiana	1,628	1,707	1,549	1,969	2,024	1,735	20.9	3.6	18.6	4.4	12.0	-.3
Maine	555	553	523	585	566	527	5.4	2.7	2.4	4.4	0.8	5.8
Maryland	1,714	1,676	1,540	1,844	1,899	1,759	7.6	3.8	13.3	4.5	14.2	3.7
Massachusetts	2,633	2,559	2,524	2,825	2,664	2,777	7.3	1.6	4.1	3.2	10.0	2.7
Michigan	3,669	3,802	3,910	3,984	3,986	4,163	8.6	1.8	4.8	3.0	6.5	2.4
Minnesota	2,097	2,084	2,052	2,176	2,245	2,140	3.8	2.6	7.7	4.1	4.3	3.4
Mississippi	932	941	892	1,124	1,240	1,100	20.6	3.6	31.8	5.2	23.3	5.5
Missouri	2,093	2,123	2,100	2,450	2,345	2,375	17.1	3.3	10.5	4.1	13.1	3.7
Montana	366	384	364	392	410	374	7.1	2.8	6.8	4.5	2.7	6.1
Nebraska	661	652	640	722	706	703	9.2	3.0	8.3	5.0	9.8	6.0
Nevada	343	283	244	363	312	254	5.8	4.4	10.2	6.1	4.1	7.7
New Hampshire	451	389	384	468	426	437	3.8	3.3	9.5	5.4	13.8	7.1
New Jersey	3,100	3,218	2,976	3,470	3,387	3,173	11.9	1.7	5.3	3.2	6.6	3.0
New Mexico	521	514	456	573	601	501	10.0	3.5	16.9	5.2	9.9	6.3
New York	6,486	6,807	6,202	7,189	7,549	6,931	10.8	1.9	10.9	2.2	11.8	2.1
North Carolina	2,134	2,175	1,856	2,497	2,475	2,040	17.0	2.1	13.8	4.3	9.9	4.0
North Dakota	297	309	301	334	334	329	12.5	2.7	8.1	4.6	9.3	6.6
Ohio	4,394	4,563	4,284	4,882	4,813	4,631	11.1	1.7	5.5	2.7	8.1	2.5
Oklahoma	1,171	1,256	1,150	1,257	1,416	1,234	7.3	3.8	12.7	4.7	7.3	4.9
Oregon	1,202	1,227	1,182	1,290	1,289	1,223	7.3	3.3	5.1	4.7	3.5	4.8
Pennsylvania	4,536	4,845	4,562	4,925	5,197	4,717	8.6	1.9	7.3	2.7	3.4	2.4
Rhode Island	405	410	416	451	448	438	11.4	3.6	9.3	5.2	5.3	6.9
South Carolina	986	969	888	1,195	1,120	1,021	21.2	4.2	15.6	5.6	15.0	5.7
South Dakota	313	318	328	355	330	353	13.4	2.4	3.8	4.5	7.6	6.4
Tennessee	1,636	1,712	1,618	1,837	1,987	1,789	12.3	4.0	16.1	4.8	10.6	4.2
Texas	5,427	5,398	4,542	6,244	6,092	4,763	15.1	2.0	12.9	2.7	4.9	2.4
Utah	647	630	604	721	730	641	11.4	3.0	15.9	4.8	6.1	5.2
Vermont	243	235	213	260	235	217	7.0	3.2	0.0	4.8	1.9	7.7
Virginia	2,192	2,147	1,866	2,516	2,271	2,006	14.8	3.2	5.8	4.7	7.5	4.0
Washington	1,865	1,875	1,742	2,075	2,009	1,728	11.3	3.2	7.1	4.6	-0.8	3.9
West Virginia	653	736	738	720	828	776	10.3	4.3	12.5	4.9	5.1	5.6
Wisconsin	2,192	2,212	2,273	2,455	2,453	2,512	12.0	2.7	10.9	4.5	10.5	3.6
Wyoming	177	189	177	195	234	191	10.2	4.3	23.8	5.8	7.9	7.8

[1]U.S. Congress, Clerk of the House, Statistics of the Presidential and Congressional Election.

Effects of Population Estimates on Voter Participation Rates

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Invited paper presented at session on Voting Statistics, Social Statistics Section, at the annual meeting of the American Statistical Association, Washington, DC, August 6–10, 1989. This paper reports the general results of research begun while the author worked at the Census Bureau. The views expressed are attributable to the author and do not necessarily reflect those of the Census Bureau or the Urban Institute.

Introduction

In recent years, a great deal of concern has been expressed about the low level of voter turnout, as measured by the voter participation rate, and its decreasing trend over time. The Census Bureau regularly produces two different sets of data that can be used in research on voter turnout. In November of even-numbered years, a supplement to the Current Population Survey (CPS) contains questions on voting and registration for the preceding Federal (Congressional/Presidential) election held that month. The Census Bureau also produces estimates and projections of the population by age for states that can be used to measure the percentage of the population voting.

In measuring voter participation, a number of different populations could be used for comparison to the number of votes cast or to the number of people who actually voted. These populations would include: the total population, the population of voting age (i.e., 18 years and over), citizens of voting age, the number eligible to vote, or the number of registered voters. Different denominators would, of course, be appropriate for different purposes. For example, comparisons based on the age-eligible populations ignore differences in citizenship composition and those based on eligible voters ignore differences in registration rates. Comparative studies across the entire country are further limited by the availability of comprehensive and fully comparable data on these various populations.

Voter turnout, or the voter participation rate, is traditionally calculated as the number of votes divided by the population aged 18 and over.The denominator of this proportion for states is derived from estimates and projections produced by the Census Bureau. Three different estimates of the denominator are actually released by the Census Bureau:

1) a short-term projection published early in the election year;
2) a postcensal estimate based on the previous census, first published one year after the election; and
3) an intercensal estimate based on the two surrounding censuses, first published the year after the following census.

This paper examines the effects of using different denominators for states to compare voter participation rates and trends over time. In addition, the potential sources and magnitudes of error in the various denominators are discussed. The paper focuses on Congressional elections, but the results apply equally to Presidential elections. Finally, the effects of including all persons over 18 years of age in the denominator rather than excluding those persons ineligible to vote (i.e., aliens and Federal/state prisoners) are examined with data from the 1980 census.

Census Bureau Information Related to Election Studies

Characteristics of the Electorate. In November of even-numbered years, the Census Bureau asks respondents in the CPS whether they are registered to vote and whether they voted in the November Federal election. For Presidential election years (e.g., 1988), an advance report summarizing the results is issued in January or February of the next year (e.g., 1989) and followed by a final report later in the same year; the reports are issued in the Census Bureau's Current Population Reports, Series P-20. (See U.S. Bureau of the Census, 1989 and 1987a for the latest reports of this genre.). For off-year elections, only the final report is issued. Reports on registration and voting have been issued for 1964–88.

The CPS universe is limited to the civilian, noninstitutional population. Socioeconomic characteristics of the electorate that are reported include: education, school enrollment (ages 18–24 only), occupation and class of worker (e.g., private, government, etc.) family income, and presence of children. These characteristics are reported by sex and by race/Hispanic origin. Because of sample size limitations, the geographic breakdowns are limited. The socioeconomic characteristics are reported only at the national level, but some data are reported for the four census regions, the nine divisions, and for metropolitan/nonmetropolitan populations.

The CPS reports show the percent of the population aged 18 and over, in each state, who report being registered and who report voting, by sex and for race/Hispanic groups. The same tables also show the civilian noninstitutional population aged 18 and over for each State. These population figures are estimates derived especially for this report. They are very similar to the postcensal estimates, described in the next section, but are of slightly poorer quality because of the report's timing.[1] Also, the CPS estimates represent the civilian, noninstitutional population and not the entire resident population of the State.

The CPS consistently shows higher voter participation rates than the election statistics. For example, in the presidential election of 1984, there was a 10 percentage point difference between the CPS estimate of voters and the actual votes cast (U.S. Bureau of the Census, 1987a). The CPS reports discuss

[1] Specifically, the populations in the CPS (Series P-20) are based on the initial (i.e., preliminary) postcensal estimates for a particular year. Whereas, those estimated populations published in the estimates reports (Series P-25) are done 2 years later and are revised (i.e., final) postcensal estimates.

some of the reasons for the differences. The hypotheses include:

1) understatement of total votes cast;
2) overreporting of voting in the survey;
3) CPS coverage;
4) use of proxy respondents in the CPS; and
5) nonresponse to the question on voting.

Although the various effects are not separable, overreporting by respondents and underreporting of total votes cast (i.e., the fact that not every person voting in the election casts a vote for President or Congress) probably account for most of the difference. (See the paper, "Estimating Voter Turnout in the Current Population Survey," by Jerry T. Jennings in this report.)

Voting-Eligible Population

There are three principal sources for Census Bureau figures on the number of potential voters: decennial censuses, regular population estimates, and special population estimates for election dates. These sources vary considerably in geographic coverage, timeliness, and availability of data on population characteristics. The actual population of eligible voters can only be approximated by the census or survey without direct questions relating to the eligibility criteria. Eligibility for voting in Federal elections is determined by age, citizenship, residence, and felon status. In Congressional/Presidential elections, nonfelon citizens aged 18 and over are eligible to vote. Not all of these characteristics can be obtained from each of the different data sources.

Residency requirements have been reduced (or virtually eliminated) in Federal elections, but, in any case, the Census Bureau does not collect data for length of residence at short durations (e.g., 30 days). All census counts and population estimates for States are based on the concept of usual residence (as implemented by the respondents in the census). The usual residence, as reported in the census, may differ from the legal or voting residence.

The decennial census provides the most comprehensive and geographically detailed data for measuring the population eligible to vote. Detailed data on Federal and State prisoners are available only from the decennial censuses, not from the CPS. Similarly, State-level data on aliens (non-citizens) by age can only be obtained from the census. These data for 1980 are presented and discussed in tables 7 to 9. None of the conventional data sources, including the census, has data on felons ineligible to vote, but who are not incarcerated.

Age-Eligible Population

In addition to the decennial census, the Census Bureau produces numerous estimates and projections of the total population and the population by age for the United States, States, counties, and subcounty governmental units. For most of the postcensal population estimates, the reference date is July 1, some 4 months before the election date. Annual estimates of the population aged 18 years and older are produced for the United States and for States; the estimates are generally available early in the year following the reference date. The Census Bureau produces estimates for counties, on an annual basis, and for subcounty areas, on a biennial basis; these estimates are available only for the total population, not for age groups.

The Census Bureau does produce biennial reports on the population of voting age for states and the Nation in which the reference date for the population estimates is November.[2] (See References for a list of the reports on the voting-age population.) These reports, usually published before the election, contain data for States and the United States. Estimates are available for elections since 1960. Three different types of population figures are shown:

1) postcensal estimates;
2) short-term projections; and
3) intercensal estimates.

These different population figures are produced somewhat differently, at different times, and have different characteristics.

Postcensal population estimates. The postcensal estimates of the voting-age population of States are derived from the Census Bureau's regular postcensal estimates of the total population for states. These estimates are published for all dates since the most recent census and are first published two years after the reference date (as a revision to the short-term projection).[3] The postcensal estimates are based on conventional population estimation techniques (e.g., ratio-correlation, administrative records) and use the most recent census as the base population. The age distribution is derived with a version of the Census Bureau's Component Method II. The series of postcensal population estimates may occasionally be revised to incorporate new data or methods. In the 1960's and 1970's, revisions in the postcensal estimates series were generally small and insignificant. In the 1980's, however, the methodology used for the underlying State estimates was changed twice, leading to significant revisions in the voting-age estimates (U.S. Bureau of the Census, 1987b and 1986b).

Short-term projections. In the report on voting-age population, the Census Bureau publishes projected populations for the upcoming election date. The

[2]Prior to 1972, there were differences among the states in age and residency requirements for voting. The various Census Bureau estimates and projections for these earlier years reflect the different age requirements and, to the extent possible, the different residency requirements. Since 1972, the age requirement has been uniform at 18 years and most residency requirements have been eliminated.

[3]Similar postcensal estimates of the civilian, noninstitutional population aged 18 and over for states are published in the P-20 Series of CPS reports. These figures are an earlier version of the postcensal estimates, produced one year earlier than those published in the P-25 reports on the voting-age population.

short-term projections are published for the upcoming election date only and are replaced in the next publication by postcensal estimates. These projections generally use extrapolations of recent trends in population growth (or migration) with the base population being the most recent set of postcensal estimates. Often, the age groupings are based on simple ratio techniques. Because the short-term projections are published before the election and replaced before the next election, the Census Bureau does not actually use them in calculating voter participation rates. They may, however, be used by others in such calculations.

Intercensal estimates. Intercensal estimates cover the period between two censuses and use these censuses as limits, or base populations, at each end of the period. The estimates use conventional population estimation techniques; they take into account final data for the decade on vital statistics, internal migration, international migration, and other data on the trajectory of population change between the two surrounding censuses. The intercensal estimates are first published two years after the census as revisions to the previous postcensal estimates; they are not usually revised.

Quality of Estimates of the Voting-Age Population. As with all population estimates and projections, the estimates of voting-age population for States are subject to errors. The errors can, in some cases, be relatively large and can vary over time and place. As such, the errors may affect conclusions about differences in voter participation and changes over time, particularly small differences and changes. This section catalogues the various types of errors present in the estimates of the voting-age population. (See table A for a list of the types of errors and which estimates they affect.) For some of the errors, their magnitude has been estimated; for others, only a qualitative assessment of the potential effect is possible.

Unfortunately, the "true" population of voting age in each State can never really be known. For the decennial censuses, some estimates of coverage error have been made, but for other years, no such assessment is possible. A consequence of this fact is that we also never really know the true magnitude of the errors in the population estimates. Rather, we must be wary of small differences in drawing conclusions from voter participation rates. The decennial censuses provide the best data on voting-age populations and are the standard for judging the quality of other estimates and projections.

Table A.
Types of Errors in Estimates of the Voting-Age Population, by Type of Estimate

Type of error	Estimate of voting-age population		
	Short-term projection	Postcensal estimate	Intercensal estimate
Census undercount	E	E	EE
Estimation error	E	E	—
Base population	E	—	—
Projection error	E	—	—
Age distribution	EE	E	E
Error of closure	—	—	E
Overall quality	Worst	Intermediate	Best

E Error is present.
EE Error is potentially very large.
— Error is not present or is insignificant.

Errors in the population figures used as denominators in measures of voter participation affect the measures, but the errors are not translated directly into the same level of error in measuring voter participation. For example, a 5 percentage point error in estimating the population of voting age does not result in a 5 percentage point error in the voter participation rate. Rather, it results in a 5 percent error in the rate. Thus, for a voter participation rate of about 60 percent, a 5 percentage point error in the population estimate translates into a 3 percentage point error in the rate.

Types of Errors

Census undercount. This error is the failure of the decennial census to count the entire population. There are no definitive estimates of census undercount for the voting-age population of States. However, there are a number of different sets of state level estimates of undercount for the 1970 and 1980 censuses. The range of errors is reasonably large, but there are definite patterns of regional variation. For 1970, State undercounts vary from a low of 0.5 percent overcount to a high of 9.2 percent undercount (Siegel, et al., 1977) with an overall mean of 2.9 percent (Fay, et al., 1988). The highest undercounts are in the South and the lowest in the Northeast and Midwest; the West has generally intermediate levels. In 1980, the estimates range from a 4.2 percent overcount to a 7.8 percent undercount. The average estimated undercount is 1.4 percent. The geographic pattern of coverage in 1980 is different from 1970. The West has the highest level of undercount, while the other three regions all have about the same level.

Census undercount affects the base population for all three types of voting-age estimates. The intercensal estimates are affected by undercount in both censuses used as base populations. Effects of undercount on voting-age estimates can be approximated using the available sources. The effects are potentially the most serious for

comparisons across states. Comparisons over time for the same State are virtually unaffected by census undercount.

Estimation error. Estimation error is the failure of the postcensal estimates to predict accurately the next census count or, alternatively, the difference from the (unknown) "true" population. In the aggregate, this estimation error is not a serious problem. For 1980, the average absolute error of estimation for the postcensal estimates of the total population of states was 1.5 percent (U.S.Bureau of the Census, 1983). For particular states, estimation error can be much larger, but the error may vary from decade to decade. Estimation error increases as the reference date becomes further from the previous census. The largest estimation errors (in percentage terms) tend to occur in small states and in states undergoing rapid population growth. Intercensal estimates are not affected by this dimension of estimation error, because they are anchored to two surrounding censuses.

Base population. Any population estimate or projection starts with a base population and adds population change over time to this base figure. For the postcensal voting-age estimates, the base populations are the previous census counts for states; for intercensal estimates, the bases are the two surrounding censuses. Thus, these two types of estimates are not affected by errors in the base population other than census undercount, as described above. The short-term projections, on the other hand, use the most recent postcensal estimates as the base populations. If these base populations are in error (through estimation error), then additional error is also introduced into the projection.

Projection error. In a population projection, it is necessary to make assumptions about future trends in demographic components of change. For state-level projections, the most critical assumptions generally surround the internal migration component. Even for the short-term projections used in the voting-age estimates, failure of the assumptions regarding future trends to match the actual course of events can result in significant errors in the projected total population. This failure of the assumptions is called projection error, an error which obviously affects only the short-term projections of the voting-age population.

Projection errors generally increase as the reference date becomes further from the base date of the projection. In addition, projection error is compounded with error in the base populations. As a result, the short-term projections of the voting-age population are the most error-prone of the various estimates. As with population estimates, the projections tend to be proportionately worse in small States and in rapidly growing states. In addition, states experiencing turnarounds in migration trends tend to be difficult to project accurately.

Age errors. This error represents error in estimating the age distribution for a state, that is, the error in deriving the population aged 18 and over, given the estimate of the total population. This error can be as large as the error in estimating the total population (i.e., estimation error) because the models used are not as good as the models for the total population (U.S. Bureau of the Census, 1987b). Age error, like estimation error, increases with distance from the census(es) being used as the base population(s). For intercensal estimates, age error may be the largest source of error.

Error of closure. Error of closure affects only the intercensal estimates. It is the difference between intercensal population change as measured by the difference between census counts and as measured by the components of population change—births, deaths, and net migration (Shryock and Siegel, 1980: 6). If the components are measured accurately, error of closure represents the difference in coverage between the two censuses; otherwise, it includes errors in measuring the components of change. Generally, error of closure is relatively small, but for the 1970-80 decade it amounted to about 2 percent nationally and more for some of the states (Fay, et al., 1988). Because intercensal estimates are constrained to agree with the two surrounding census counts, the error of closure must be distributed throughout the decade in some manner. In this sense, error of closure acts as an "imaginary" component of population change in intercensal estimates.

Comparison of Voting-Age Estimates and Projections

Differences among the three types of voting-age estimates—short-term projections, postcensal estimates, and intercensal estimates—for a given state in a given year represent the effects of the different types of errors (table A) and the various revisions in the estimates. The intercensal estimates are generally the best of the three. They are constrained to the census counts and use the most complete and reliable data. The short-term projections are generally the worst, because they use incomplete data and rely on extrapolations or assumptions regarding future trends in population change. The postcensal estimates are of intermediate quality, but are generally similar to the projections for which the estimates serve as base populations.

Although it is not possible to assess the errors in estimates of the voting-age population directly, it is possible to compare the different types of estimates. Given the types of errors and overall quality, the differences between the intercensal estimates and the short-term projections should be the largest; those between the postcensal estimates and the projections, the smallest. Differences between the the intercensal and postcensal estimates should be only slightly smaller than the largest differences. Tables 1 to 5 display the differences for the various types of estimates for different periods.

Table 1 compares postcensal and intercensal estimates for all States for the 1960's. No comparisons with the short-

term projections are shown for the 1960's because such projections were not generally published. Tables 2 to 4 show comparisons for the 1970's. Table 2 compares postcensal and intercensal estimates; table 3, postcensal estimates and short-term projections; and table 4, intercensal estimates and short-term projections. Table 5 compares the short-term projections and post-censal estimates for the 1980's (through 1986). No intercensal estimates are shown for the 1980's because they must obviously await the results of the 1990 census.

Differences between the postcensal estimates and the short-term projections are the smallest of the three comparisons for the 1970's (table 3). Since the projections are extrapolations of these estimates, their resemblance is not surprising. Also, since all of the projections have a short time horizon (only 1 or 2 years), the average differences do not increase through the decade. Some of the individual differences are large, however. For 1972, New Mexico has a difference of 5.5 percent and Arizona, 4.5 percent. For 1974, Rhode Island differs by 5.4 percent. In 1976, Alaska shows the largest difference of the entire decade at 10.8 percent. Alaska's average difference of 4.8 percent for the decade reflects the difficulties of making accurate projections for a small state undergoing rapid population growth. For the 1980s, the average difference between postcensal estimates and short-term projections is generally smaller than in the 1970s (table 5). This pattern may reflect improvements in both estimation and projection techniques. Note that Alaska still causes problems, showing a difference of 8.0 percent in 1982.

Differences between the intercensal estimates and the short-term projections for the 1970's are the largest of the three differences at every date, as expected (table 4). The average differences increase throughout the decade, reflecting the increasing effect of estimation error, base population error, and, to some extent, projection error on the short-term projections. Again, states that grew rapidly during the decade show the largest differences because of the inaccuracy of the projections. The intercensal estimates exceeded the short-term projections by 12.8 percent in 1978 and 12.9 percent in 1980 for Nevada, by 11.3 percent in 1976 for Alaska, by 10.7 percent in 1980 for Arizona, and by 10.2 percent in 1980 for Florida. These four states had the largest average absolute differences for the decade of the 1970's—all exceeding Florida's 4.9 percent.

Differences between the intercensal and postcensal estimates for the 1970's (table 2) are almost as large as the differences between the intercensal estimates and short-term projections. The differences increase steadily throughout the decade as the estimation error gets larger with increasing time from the base date of the estimates. By 1980, some very large differences have appeared: Nevada at 12.8 percent, Florida at 10.3 percent, Arizona at 9.9 percent, Georgia and Alaska at 6.6 percent, and South Carolina at 6.5 percent. Nevada, Arizona, and Florida have average absolute differences for the decade between 4.9 and 7.5 percent.

The 1960's show a similar pattern of increasing differences between the intercensal and postcensal estimates, with the exception of 1962 (table 1). Georgia's difference of -9.1 percent and Kentucky's of -7.7 percent in 1968 are the only examples in either decade of very large differences where the postcensal estimate exceeds the intercensal estimate (State-level data not shown in table 1). The average absolute differences for 1964–68 are almost exactly equal to the corresponding differences in the 1970's, in spite of the much larger national error of closure in the 1970–80 decade. Underlying this similarity is a significant difference, however. In the 1960's, there were large overestimates and underestimates, with almost 40 percent of the estimates being underestimates. In the 1970's, there were no large underestimates and only about 20 percent of the estimates were low. The largest errors were concentrated in the regions with the largest errors of closure for the 1970–80 decade, the South and the West.

Table 6 shows the percentage point differences in percent voting for 1962–66 and 1972–78 Congressional elections based on intercensal and postcensal estimates. These data use denominators that are the bases for tables 1 and 2. The differences in percent voting are all much smaller than the corresponding differences in the denominators. This pattern reflects the dampening effect of the numerator, i.e., the fact that only 40–70 percent of the age-eligible population votes, in general. Also these comparisons omit the final year(s) of the decade where the differences in population estimates are the largest.

Effects of Ineligible Populations on Voter Participation Rates

Four principal population groups are included in census counts and population estimates and projections, but are not eligible to vote in Federal elections. These groups are persons under 18 years of age, aliens, convicted felons, and persons who do not meet state residency requirements. There are no data on this last group, but the decennial census provides information that can be used to estimate the effects of the other three on denominators in voter participation rates. Table 7 contains data from the 1980 census on these three groups.

Ineligible Population Groups

Persons under 18 years of age. Nationally, 69.8 million persons, or 30.7 percent of the population was under 18 years of age and, therefore, ineligible to vote. Thirty-nine States were within 2 percentage points of this value; four states and the District of Columbia had less than 28.7 percent under 18, whereas seven States had more than 32.7 percent. The District of Columbia had the smallest percent of children at 26.1

percent with Pennsylvania next at 27.3 percent. Kansas, Missouri, and Florida also had comparatively small percentages of children.

Utah had by far the largest percentage of its population under 18 years of age at 38.3 percent. Hawaii at 34.9 percent was next. Other States with particularly large percentages of children were all in the West or Southwest—California (34.7 percent), Alaska (34.0), New Mexico (33.6), Idaho (33.5), and Texas (33.2).

Prisoners. Persons incarcerated in Federal and State prisons are not eligible to vote. The number of other felons ineligible to vote cannot be approximated with the data from the 1980 census. The number of prisoners aged 18 and over is relatively small, accounting for 297,000 persons or only 0.2 percent of the population aged 18 and over. This group has relatively little effect on voter participation rates. Not only is the group small, but the distribution across states is uniform. The proportion of the population aged 18 and over who are prisoners varies only from 0.1 to 0.4 percent.

Aliens. The number of aliens aged 18 and over is much greater than the number of prisoners. In 1980, there were 5.7 million aliens counted and identified as such in the census, accounting for 3.5 percent of the national population in the age group. In addition, Warren and Passel (1987) found evidence of substantial misreporting of citizenship by aliens in the 1980 census. For all ages, their estimates show 7.8 million aliens, rather than the 6.8 million who actually reported—a difference of almost 15 percent. The figures shown in tables 7 to 9 do not correct for this reporting error and thus understate the true effect of aliens on voter participation rates.

The proportions of aliens vary considerably and can significantly affect comparisons of voter participation across States and time. The states with the smallest proportions that are aliens among the population aged 18 and over are: Arkansas, Alabama, Kentucky, Wyoming (all 0.5 percent), Mississippi, Tennessee, and South Dakota (0.6 percent). In addition, another 9 States also have less than 1.0 percent aliens. At the other end of the spectrum, 10.5 percent of California's population aged 18 and over reported as aliens. Hawaii (8.9 percent), New York (6.8 percent), and Florida (5.7 percent) also exceed 5.0 percent. Four other States and the District of Columbia have more than 4.0 percent aliens in their voting-age population.

Effects on Percent Voting in 1980

The effect of including ineligible persons aged 18 and over in the denominator for calculating the percent voting can be significant in some States. Table 8 illustrates the effect on the Presidential election of 1980. Using the total population 18 and over as the denominator, 53.1 percent of the population voted in the Presidential election of 1980.[4] Excluding aliens from the calculation raises the overall voter participation rate to 55.1 percent.

The increases in participation rates if aliens are excluded from the calculations are not uniform across the States. California's participation rate increases by 5.8 percentage points from 49.7 percent (well below the national average) to 55.5 percent (slightly above the national average). This is a substantial increase as California would move from having the 28th highest rate to the 19th highest. Other States with significant increases include: Hawaii (4.3 percentage points), New York (3.5), Florida (3.0), New Jersey (2.9), Rhode Island (2.6), Massachusetts (2.5), Illinois (2.5), and Texas (2.0). On the other hand, there were 26 states where the effect of aliens was less than 1.0 percent.

[4]Table 8 uses data from the 1980 census for denominators. These populations refer to April 1, 1980, and not the actual November election day. Thus, they differ slightly from rates computed with November populations.

Conclusion

The comparison and analysis of different types of population estimates and projections shows that various types of errors and methodological differences can affect the estimated level of voter participation. The errors themselves cannot really be corrected in a timely or complete manner. However, the Census Bureau's procedure of replacing short-term projections with postcensal estimates and then, in turn, with intercensal estimates represents an attempt to introduce increasingly accurate data and methods as they become available.

Voter participation rates based on short-term projections are subject to the largest errors. Following closely behind are those based on postcensal estimates. The results presented in this paper suggest that *small differences in voter participation should not be accorded great substantive significance*. Furthermore, analyses based on short-term projections or postcensal estimates should be revised, when possible, to take into account the greater accuracy of participation measures based on intercensal population estimates.

The effects on estimates (or projections) of including ineligible populations, particularly aliens, in the calculation of voter participation rates can be quite large. In addition, these effects are increasing over time as the Nation's population comes to include increasing percentages of aliens. In 1970, aliens accounted for 1.7 percent of the population (and 2.2 percent of the population aged 18 and over). By 1980, the proportion had grown to 3.1 percent (and 3.5 percent of the population of voting age). By 1988, the percentage of aliens in the population had increased further to 3.9 percent (and 4.5 percent of the voting-age population).

The effects of ineligible populations (i.e., aliens) are concentrated in those States that receive the largest numbers of immigrants. Consequently, they are predictable. They should, and can, be taken into account in analyses of voter participation, at least implicitly. In addition, the Census Bureau needs to con-

sider the feasibility of producing estimates and projections of the number of citizens of voting age in each State so that more accurate analyses of voter participation can be done on a regular basis.

It must be stressed, however, that *errors and revisions in the population estimates and projections can have effects as large as the effects of including aliens in the voting-age population.* Table 9 compares the estimated percentages of the population voting in the 1980 Presidential election derived from three different denominators: short-term projections of the voting-age population, intercensal estimates of the voting-age population, and 1980 census data on the *eligible* population of voting age. There are many differences within a State exceeding 2 percent. However, in 15 states the effect of moving from the projection to the intercensal estimate is within 0.5 percentage point of the effect of moving from the estimate of voting-age population to the eligible population; in another 11 states, the effect is between 0.5 and 1.0 percentage points. In another comparison that highlights the relative sizes of these effects, 18 States show *greater* changes in rates when going from the projected denominator to the intercensal estimate of the denominator than when going from the intercensal estimate of voting-age population to the eligible population as the denominator of the rate. Included among these states that showed greater effects of projection errors are two States with relatively large alien populations, Florida and Nevada. Unfortunately, the locations of potential effects of errors and revisions in projections and postcensal estimates are not as predictable as the effects of including aliens in the estimates. The errors and revisions can occur in any State. Analysts should note, however, that large percentage errors in population estimates tend to occur in small states and in rapidly growing States. Findings related to voter participation rates should include the caveat that errors in the denominators could affect the results, particularly when unexpected results are found.

Studies of voter participation are limited by potential errors in the figures used as denominators for rates. When possible, analyses should be based on intercensal population estimates to take advantage of the best data possible. Aliens, who are not eligible to vote, should be eliminated from the denominators if possible; if not, analysts should note the effects since they are concentrated in a few States. Other effects of ineligible populations are extremely small and should not affect research results.

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Table 1.
Resident Population of Voting Age for Regions and Divisions— Difference Between Postcensal Estimate and Intercensal Estimate: 1960 to 1968

(Population in thousands. Difference is intercensal estimate minus postcensal estimate; base of percents is postcensal estimate)

Region and division	Amount of difference						Percent difference					
	1960	1962	1964	1966	1968	Average	1960	1962	1964	1966	1968	Average
United States	665	1,831	290	255	279	664	0.6	1.6	0.3	0.2	0.2	0.6
Average absolute difference[1]	13	38	24	35	50	32	0.70	1.90	1.27	1.79	2.26	1.58
Northeast	119	476	-86	-108	-188	195	0.4	1.7	-0.3	-0.4	-0.6	0.7
New England	40	155	102	128	156	116	0.6	2.3	1.5	1.9	2.2	1.7
Middle Atlantic	79	320	-187	-236	-344	233	0.4	1.4	-0.8	-1.0	-1.5	1.0
Midwest	194	662	132	373	450	362	0.6	2.1	0.4	1.2	1.4	1.1
East North Central	136	478	127	375	354	294	0.6	2.2	0.6	1.7	1.5	1.3
West North Central	58	184	4	-2	95	69	0.6	2.0	0.0	0.0	1.0	0.7
South	224	266	25	-103	-270	178	0.7	0.8	0.1	-0.3	-0.7	0.5
South Atlantic	135	156	152	176	88	147	0.9	1.2	0.9	1.0	0.5	0.9
East South Central	56	13	-64	-140	-318	118	0.8	0.2	-0.9	-1.8	-4.0	1.5
West South Central	33	97	-63	-139	-40	68	0.3	0.7	-0.6	-1.3	-0.4	0.7
West	126	421	224	92	288	230	0.7	2.4	1.2	0.5	1.4	1.2
Mountain	24	92	67	-3	116	60	0.6	2.2	1.6	-0.1	2.6	1.4
Pacific	101	329	157	95	172	171	0.8	2.4	1.1	0.6	1.1	1.2

[1]Average of States.
Sources: Postcensal—U.S. Bureau of the Census (1966, 1968); Intercensal—U.S. Bureau of the Census (1974).

Table 2
Resident Population of Voting Age for States—Difference Between Postcensal Estimate and Intercensal Estimate: 1972 to 1980

(Population in thousands. Difference is intercensal estimate minus postcensal estimate; base of percents is postcensal estimate)

Region, division, and State	Amount of difference						Percent difference					
	1972	1974	1976	1978	1980	Average	1972	1974	1976	1978	1980	Average
United States	709	1303	2181	2657	3890	2148	0.5	0.9	1.5	1.7	2.4	1.4
Average absolute difference[1]	18	29	46	59	84	47	0.87	1.26	1.80	2.32	2.92	1.83
Northeast	106	148	183	210	235	176	0.3	0.4	0.5	0.6	0.7	0.5
New England	25	48	45	39	36	39	0.3	0.6	0.5	0.4	0.4	0.4
Middle Atlantic	81	102	138	170	198	138	0.3	0.4	0.5	0.6	0.7	0.5
Midwest	9	102	212	120	78	104	0.0	0.3	0.5	0.3	0.2	0.3
East North Central	54	113	192	175	149	137	0.2	0.4	0.7	0.6	0.5	0.5
West North Central	-45	-10	21	-54	-70	40	-0.4	-0.1	0.2	-0.4	-0.6	0.3
South	436	765	1219	1628	2525	1315	1.0	1.7	2.5	3.3	4.9	2.7
South Atlantic	284	452	706	935	1507	777	1.3	2.0	3.0	3.8	5.9	3.2
East South Central	62	119	214	283	278	191	0.7	1.3	2.3	2.9	2.8	2.0
West South Central	90	196	300	411	739	347	0.7	1.4	2.1	2.7	4.6	2.3
West	158	286	566	699	1053	552	0.6	1.1	2.1	2.4	3.5	1.9
Mountain	32	81	199	254	375	188	0.6	1.3	3.0	3.5	4.9	2.7
Pacific	126	206	367	444	678	364	0.7	1.1	1.8	2.1	3.0	1.7
New England:												
Maine	9	9	16	20	20	15	1.3	1.3	2.2	2.6	2.5	2.0
New Hampshire	5	9	15	17	14	12	1.0	1.6	2.6	2.7	2.1	2.0
Vermont	2	5	7	8	10	6	0.7	1.6	2.1	2.3	2.8	1.9
Massachusetts	-5	6	-1	-9	-17	8	-0.1	0.1	0.0	-0.2	-0.4	0.2
Rhode Island	11	24	20	27	23	21	1.6	3.7	3.0	4.0	3.3	3.1
Connecticut	2	-6	-12	-24	-14	12	0.1	-0.3	-0.5	-1.1	-0.6	0.5
Middle Atlantic:												
New York	54	33	29	42	45	41	0.4	0.3	0.2	0.3	0.3	0.3
New Jersey	13	38	33	39	19	28	0.3	0.7	0.6	0.7	0.4	0.5
Pennsylvania	14	30	76	88	133	68	0.2	0.4	0.9	1.0	1.5	0.8
East North Central:												
Ohio	26	15	41	37	30	30	0.4	0.2	0.6	0.5	0.4	0.4
Indiana	2	26	39	35	34	27	0.1	0.7	1.1	0.9	0.9	0.7
Illinois	44	115	148	177	178	132	0.6	1.5	1.9	2.2	2.2	1.7
Michigan	8	-11	-6	-8	-31	13	0.1	-0.2	-0.1	-0.1	-0.5	0.2
Wisconsin	-26	-31	-30	-65	-63	43	-0.9	-1.0	-0.9	-2.0	-1.8	1.3
West North Central:												
Minnesota	-9	-11	-4	-31	-30	17	-0.4	-0.4	-0.1	-1.1	-1.0	0.6
Iowa	-19	3	19	5	-2	10	-1.0	0.2	0.9	0.3	-0.1	0.5
Missouri	12	13	22	5	8	12	0.4	0.4	0.6	0.1	0.2	0.4
North Dakota	-2	-1	-	-2	-4	2	-0.5	-0.2	0.0	-0.4	-0.9	0.4
South Dakota	-4	-5	-2	-2	-	3	-0.9	-1.1	-0.4	-0.4	0.0	0.6
Nebraska	-9	-3	-3	-8	-10	7	-0.9	-0.3	-0.3	-0.7	-0.9	0.6
Kansas	-14	-6	-11	-24	-30	17	-0.9	-0.4	-0.7	-1.4	-1.7	1.0
South Atlantic:												
Delaware	1	5	8	11	12	7	0.3	1.3	2.0	2.7	2.9	1.8
Maryland	31	39	35	38	43	37	1.2	1.4	1.2	1.3	1.4	1.3
District of Columbia	7	16	18	23	18	16	1.3	3.1	3.6	4.7	3.8	3.3
Virginia	55	54	57	73	103	68	1.7	1.6	1.6	2.0	2.7	1.9
West Virginia	-2	10	21	36	38	21	-0.2	0.8	1.6	2.7	2.8	1.6
North Carolina	52	57	102	135	210	111	1.5	1.6	2.7	3.4	5.2	2.9
South Carolina	14	41	70	103	135	73	0.8	2.2	3.6	5.1	6.5	3.7
Georgia	55	87	103	148	239	126	1.8	2.7	3.0	4.2	6.6	3.7
Florida	71	143	292	368	709	317	1.4	2.4	4.8	5.7	10.3	4.9
East South Central:												
Kentucky	19	31	58	72	58	48	0.9	1.4	2.4	2.9	2.3	2.0
Tennessee	5	31	59	87	108	58	0.2	1.1	2.0	2.8	3.4	1.9
Alabama	11	25	48	60	46	38	0.5	1.0	1.9	2.3	1.7	1.5
Mississippi	27	32	49	64	66	48	1.9	2.1	3.2	4.0	4.0	3.0

Table 2.
Resident Population of Voting Age for States—Difference Between Postcensal Estimate and Intercensal Estimate: 1972 to 1980—Continued

(Population in thousands. Difference is intercensal estimate minus postcensal estimate; base of percents is postcensal estimate)

Region, division, and State	Amount of difference						Percent difference					
	1972	1974	1976	1978	1980	Average	1972	1974	1976	1978	1980	Average
West South Central:												
Arkansas	-	11	31	47	67	31	0.0	0.8	2.1	3.1	4.3	2.0
Louisiana	16	37	56	71	135	63	0.7	1.5	2.2	2.6	1.9	2.4
Oklahoma	9	24	27	37	68	33	0.5	1.3	1.4	1.8	3.2	1.6
Texas	64	123	186	257	469	220	0.8	1.5	2.2	2.8	4.9	2.4
Mountain:												
Montana	1	-2	3	4	-1	2	0.2	-0.4	0.6	0.7	-0.2	0.4
Idaho	-1	1	8	12	9	6	-0.2	0.2	1.4	2.0	1.4	1.0
Wyoming	-3	-3	-2	-3	-3	3	-1.3	-1.2	-0.7	-1.0	-0.9	1.0
Colorado	18	24	46	45	64	39	1.1	1.4	2.6	2.3	3.1	2.1
New Mexico	-2	3	16	23	27	14	-0.3	0.4	2.1	2.8	3.1	1.7
Arizona	20	46	84	114	177	88	1.5	3.2	5.5	6.9	9.9	5.4
Utah	-10	-5	11	17	35	16	-1.4	-0.7	1.4	2.0	3.9	1.9
Nevada	10	21	32	44	68	35	2.8	5.4	7.5	9.2	12.8	7.5
Pacific:												
Washington	24	29	55	43	52	41	1.0	1.2	2.2	1.6	1.7	1.5
Oregon	-8	2	21	25	12	14	-0.5	0.1	1.3	1.4	0.6	0.8
California	93	156	272	345	557	285	0.7	1.1	1.8	2.1	3.3	1.8
Alaska	6	6	1	7	17	7	3.0	2.8	0.4	2.7	6.6	3.1
Hawaii	11	12	19	26	39	21	2.1	2.1	3.1	4.1	5.9	3.5

[1]Average for States.
Source: Postcensal—U.S. Bureau of the Census (1980); Intercensal—U.S. Bureau of the Census (1982).

Table 3.
Resident Population of Voting Age for States—Difference Between Short-Term Projection and Postcensal Estimate: 1972 to 1978

(Population in thousands. Difference is postcensal estimate minus projection; base of percents is projection)

Region, division, and State	Amount of difference					Percent difference				
	1972	1974	1976	1978	Average	1972	1974	1976	1978	Average
United States	426	106	86	220	210	0.3	0.1	0.1	0.1	0.1
Average absolute difference[1]	24	18	23	17	21	1.43	0.95	1.05	0.80	1.06
Northeast	-99	-80	-7	-148	84	-0.3	-0.2	0.0	-0.4	0.2
New England	7	-29	-8	-5	12	0.1	-0.3	-0.1	-0.1	0.1
Middle Atlantic	-105	-52	1	-142	75	-0.4	-0.2	0.0	-0.5	0.3
Midwest	-37	-115	68	99	80	-0.1	-0.3	0.2	0.2	0.2
East North Central	-55	-35	-20	36	37	-0.2	-0.1	-0.1	0.1	0.1
West North Central	18	-80	88	63	62	0.2	-0.7	0.8	0.5	0.5
South	434	167	-29	-83	178	1.0	0.4	-0.1	-0.2	0.4
South Atlantic	270	171	-190	-108	185	1.3	0.8	-0.8	-0.4	0.8
East South Central	115	-12	33	-15	44	1.3	-0.1	0.4	-0.2	0.5
West South Central	49	7	129	39	56	0.4	0.1	0.9	0.3	0.4
West	127	135	54	352	167	0.5	0.5	0.2	1.2	0.6
Mountain	164	3	-24	89	70	2.9	0.0	-0.4	1.3	1.1
Pacific	-37	131	78	264	126	-0.2	0.7	0.4	1.2	0.6
New England:										
Maine	17	14	2	-5	10	2.6	2.0	0.3	-0.6	1.4
New Hampshire	-1	1	4	7	3	-0.2	0.2	0.7	1.1	0.6
Vermont	-3	-	3	1	2	1.0	0.0	0.9	0.3	0.5
Massachusetts	13	-32	-40	-8	23	0.3	-0.8	-1.0	-0.2	0.6
Rhode Island	-2	-37	21	2	16	-0.3	-5.4	3.2	0.3	2.3
Connecticut	-17	25	2	-1	11	-0.8	1.2	0.1	0.0	0.5
Middle Atlantic:										
New York	-110	1	-47	-97	64	-0.9	0.0	-0.4	-0.7	0.5
New Jersey	-28	-29	33	-18	27	-0.6	-0.6	0.6	-0.3	0.5
Pennsylvania	32	-24	14	-26	24	0.4	-0.3	0.2	-0.3	0.3
East North Central:										
Ohio	-62	15	-39	12	32	-0.9	0.2	-0.5	0.2	0.4
Indiana	-13	-26	13	25	19	-0.4	-0.7	0.4	0.7	0.5
Illinois	-10	-34	73	-20	34	-0.1	-0.4	0.9	-0.3	0.4
Michigan	-6	40	-48	9	26	-0.1	0.7	-0.8	0.1	0.4
Wisconsin	36	-31	-18	9	24	1.2	-1.0	-0.6	0.3	0.8
West North Central:										
Minnesota	-14	-3	9	26	13	-0.5	-0.1	0.3	0.9	0.5
Iowa	27	-44	-3	12	22	1.4	-2.2	-0.1	0.6	1.1
Missouri	-38	10	38	23	27	-1.2	0.3	1.1	0.7	0.8
North Dakota	11	-6	10	-4	8	2.7	-1.4	2.3	-0.9	1.8
South Dakota	13	-5	2	-2	6	3.0	-1.1	0.4	-0.4	1.2
Nebraska	6	-12	4	-1	6	0.8	-1.1	0.4	-0.1	0.6
Kansas	12	-20	29	11	18	0.8	-1.2	1.8	0.6	1.1
South Atlantic:										
Delaware	7	-1	1	-3	3	1.9	-0.3	0.2	-0.7	0.8
Maryland	2	2	22	-15	10	0.1	0.1	0.8	-0.5	0.4
District of Columbia	12	-11	-7	-7	9	2.3	-2.1	-1.4	-1.4	1.8
Virginia	5	44	28	-15	23	0.2	1.3	0.8	-0.4	0.7
West Virginia	39	2	12	-14	17	3.3	0.2	0.9	-1.0	1.4
North Carolina	33	42	-42	-11	32	1.0	1.2	-1.1	-0.3	0.9
South Carolina	42	11	-10	-10	18	2.5	0.6	-0.5	-0.5	1.0
Georgia	-6	24	16	-24	18	-0.2	0.7	0.5	-0.7	0.5
Florida	137	57	-210	-8	103	2.7	1.0	-3.3	-0.1	1.8
East South Central:										
Kentucky	-2	-12	2	-1	4	-0.1	-0.5	0.1	0.0	0.2
Tennessee	45	-22	16	-15	25	1.7	-0.8	0.5	-0.5	0.9
Alabama	40	12	5	5	16	1.8	0.5	0.2	0.2	0.7
Mississippi	32	10	10	-4	14	2.3	0.7	0.6	-0.2	1.0

Table 3.
Resident Population of Voting Age for States—Difference Between Short-Term Projection and Postcensal Estimate: 1972 to 1978—Continued

(Population in thousands. Difference is postcensal estimate minus projection; base of percents is projection)

Region, division, and State	Amount of difference					Percent difference				
	1972	1974	1976	1978	Average	1972	1974	1976	1978	Average
West South Central:										
Arkansas	44	3	-32	-7	22	3.4	0.2	-2.1	-0.5	1.5
Louisiana	34	-14	35	15	25	1.5	-0.6	1.4	0.6	1.0
Oklahoma	-3	-7	26	1	9	-0.2	-0.4	1.3	0.0	0.5
Texas	-26	25	100	30	45	-0.3	0.3	1.2	0.3	0.5
Mountain:										
Montana	9	10	-2	6	7	2.0	2.1	-0.4	1.1	1.4
Idaho	12	9	-8	3	9	2.5	1.7	-1.4	0.5	1.5
Wyoming	4	1	3	9	4	1.8	0.4	1.1	3.1	1.6
Colorado	28	-9	19	29	21	1.8	-0.5	1.1	1.5	1.2
New Mexico	35	-14	-4	3	14	5.5	-1.9	-0.5	0.4	2.1
Arizona	56	2	-28	10	24	4.5	0.1	-1.8	0.6	1.8
Utah	10	-5	-3	14	8	1.5	-0.7	-0.4	1.7	1.0
Nevada	9	8	1	15	8	2.6	2.1	0.2	3.3	2.0
Pacific:										
Washington	-65	42	10	98	54	-2.7	1.8	0.4	3.7	2.1
Oregon	3	-6	5	33	12	0.2	-0.4	0.3	1.9	0.7
California	24	86	32	149	73	0.2	0.8	0.2	0.9	0.5
Alaska	-3	7	25	-10	11	-1.5	3.4	10.8	-3.7	4.8
Hawaii	5	3	5	-6	5	0.9	0.5	0.8	-0.9	0.8

[1]Average for States.
Source: Postcensal—U.S. Bureau of the Census (1980); Projection—U.S. Bureau of the Census (1972, 1974, 1976, 1978).

Table 4.
Resident Population of Voting Age for States—Difference Between Short-Term Projection and Intercensal Estimates: 1972 to 1980

(Populations in thousands. Difference is intercensal estimate minus projection; base of percents is projection)

Region, division, and State	Amount of difference						Percent difference					
	1972	1974	1976	1978	1980	Average	1972	1974	1976	1978	1980	Average
United States	1135	1409	2267	2877	4104	2358	0.8	1.0	1.5	1.9	2.6	1.5
Average absolute difference[1]	31	37	51	64	89	54	1.72	1.72	2.22	2.53	3.10	2.26
Northeast	7	68	176	62	226	108	0.0	0.2	0.5	0.2	0.6	0.3
New England	32	19	37	34	32	31	0.4	0.2	0.4	0.4	0.4	0.4
Middle Atlantic	-24	50	139	28	193	87	-0.1	0.2	0.5	0.1	0.7	0.3
Midwest	-28	-13	280	219	128	134	-0.1	0.0	0.7	0.5	0.3	0.3
East North Central	-1	78	172	211	168	126	0.0	0.3	0.6	0.7	0.6	0.4
West North Central	-27	-90	109	9	-40	55	-0.2	-0.8	0.9	0.1	-0.3	0.5
South	870	932	1190	1545	2611	1430	2.0	2.0	2.5	3.1	5.0	2.9
South Atlantic	554	623	516	827	1537	811	2.6	2.7	2.1	3.3	6.0	3.4
East South Central	177	107	247	268	310	222	2.1	1.2	2.6	2.7	3.1	2.3
West South Central	139	203	429	450	763	397	1.1	1.5	3.0	2.9	4.7	2.6
West	285	421	620	1051	1140	703	1.2	1.6	2.3	3.7	3.7	2.5
Mountain	196	84	175	343	406	241	3.5	1.3	2.6	4.9	5.3	3.5
Pacific	89	337	445	708	734	463	0.5	1.8	2.2	3.3	3.2	2.2
New England:												
Maine	26	23	18	15	21	21	3.9	3.3	2.4	1.9	2.7	2.8
New Hampshire	4	10	19	24	15	14	0.8	1.8	3.3	3.9	2.3	2.4
Vermont	-1	5	10	9	11	7	-0.3	1.6	3.1	2.6	3.1	2.1
Massachusetts	8	-26	-41	-17	-20	22	0.2	-0.6	-1.0	-0.4	-0.5	0.5
Rhode Island	9	-13	41	29	23	23	1.3	-1.9	6.3	4.3	3.3	3.4
Connecticut	-15	19	-10	-25	-17	17	-0.7	0.9	-0.5	-1.1	-0.7	0.8
Middle Atlantic:												
New York	-56	34	-18	-55	33	39	-0.4	0.3	-0.1	-0.4	0.3	0.3
New Jersey	-15	9	66	21	24	27	-0.3	0.2	1.3	0.4	0.4	0.5
Pennsylvania	46	6	90	62	135	68	0.6	0.1	1.1	0.7	1.6	0.8
East North Central:												
Ohio	-36	30	2	49	43	32	-0.5	0.4	0.0	0.6	0.6	0.4
Indiana	-11	-	52	60	43	33	-0.3	0.0	1.4	1.6	1.1	0.9
Illinois	34	81	221	157	189	136	0.5	1.1	2.9	2.0	2.3	1.7
Michigan	2	29	-54	1	-37	25	0.0	0.5	-0.9	0.0	-0.6	0.4
Wisconsin	10	-62	-48	-56	-71	49	0.3	-2.0	-1.5	-1.7	-2.1	1.5
West North Central:												
Minnesota	-23	-14	5	-5	-24	14	-0.9	-0.5	0.2	-0.2	-0.8	0.5
Iowa	8	-41	16	18	6	18	0.4	-2.0	0.8	0.9	0.3	0.9
Missouri	-26	23	60	28	9	29	-0.8	0.7	1.8	0.8	0.3	0.9
North Dakota	9	-7	10	-6	-2	7	2.2	-1.6	2.3	-1.3	-0.4	1.6
South Dakota	9	-10	-	-4	3	5	2.1	-2.2	0.0	-0.8	0.6	1.1
Nebraska	-1	15	1	-9	-5	6	-0.1	1.4	0.1	-0.8	-0.4	0.6
Kansas	-2	-26	18	-13	-26	17	-0.1	-1.6	1.1	-0.8	-1.5	1.0
South Atlantic:												
Delaware	8	4	9	8	12	8	2.2	1.0	2.2	1.9	2.9	2.0
Maryland	33	41	57	23	41	39	1.2	1.5	2.0	0.8	1.3	1.4
District of Columbia	19	5	11	16	20	14	3.7	1.0	2.1	3.2	4.2	2.8
Virginia	60	98	85	58	113	83	1.9	2.9	2.4	1.6	3.0	2.3
West Virginia	37	12	33	22	43	29	3.1	1.0	2.6	1.6	3.2	2.3
North Carolina	85	99	60	124	219	117	2.5	2.7	1.6	3.1	5.4	3.1
South Carolina	56	52	60	93	146	81	3.3	2.8	3.1	4.6	7.1	4.2
Georgia	49	111	119	124	241	129	1.6	3.4	3.5	3.5	6.6	3.7
Florida	208	200	82	360	702	310	4.1	3.4	1.3	5.5	10.2	4.9
East South Central:												
Kentucky	17	19	60	71	64	46	0.8	0.8	2.5	2.9	2.5	1.9
Tennessee	50	9	75	72	118	65	1.8	0.3	2.5	2.3	3.7	2.1
Alabama	51	37	53	65	55	52	2.2	1.5	2.1	2.5	2.0	2.1
Mississippi	59	42	59	60	73	59	4.2	2.8	3.8	3.7	4.4	3.8

Table 4.
Resident Population of Voting Age for States—Difference Between Short-Term Projection and Intercensal Estimates: 1972 to 1980—Continued

(Populations in thousands. Difference is intercensal estimate minus projection; base of percents is projection)

Region, division, and State	Amount of difference						Percent difference					
	1972	1974	1976	1978	1980	Average	1972	1974	1976	1978	1980	Average
West South Central:												
Arkansas	44	14	-1	40	66	33	3.4	1.0	-0.1	2.6	4.2	2.2
Louisiana	50	23	91	86	139	78	2.1	0.9	3.6	3.2	5.0	3.0
Oklahoma	6	17	53	38	76	38	0.3	0.9	2.7	1.9	3.6	1.9
Texas	38	148	286	267	482	248	0.5	1.8	3.4	3.2	5.0	2.8
Mountain:												
Montana	10	8	1	10	-	6	2.2	1.7	0.2	1.9	0.0	1.2
Idaho	11	10	-	15	12	10	2.3	1.9	0.0	2.5	1.9	1.7
Wyoming	1	-2	1	6	-3	3	0.4	-0.8	0.4	2.1	-0.9	0.9
Colorado	46	15	65	74	73	55	3.0	0.9	3.7	3.9	3.6	3.0
New Mexico	33	-11	12	26	31	23	5.2	-1.5	1.6	3.2	3.6	3.0
Arizona	76	48	56	124	191	99	6.1	3.3	3.6	7.6	10.7	6.3
Utah	-	-10	8	31	34	17	0.0	-1.3	1.0	3.7	3.8	2.0
Nevada	19	29	33	59	69	42	5.5	7.6	7.8	12.8	12.9	9.3
Pacific:												
Washington	-41	71	65	141	62	76	-1.7	3.0	2.6	5.3	2.1	2.9
Oregon	-5	-4	26	58	20	23	-0.3	-0.3	1.6	3.3	1.0	1.3
California	117	242	304	494	592	360	0.8	1.7	2.0	3.1	3.5	2.2
Alaska	3	13	26	-3	20	13	1.5	6.3	11.3	-1.1	7.8	5.6
Hawaii	16	15	24	20	40	23	3.0	2.6	4.0	3.1	6.1	3.8

[1]Average for States.
Source: Projection—U.S. Bureau of the Census (1972, 1974, 1976, 1978, 1980) Intercensal—U.S. Bureau of the Census (1986a)

Table 5.
Resident Population of Voting Age for States—Difference Between Short-Term Projection and Postcensal Estimate: 1980 to 1986

(Population in thousands. Difference is postcensal estimate minus projection; base of percents is projection)

Region, division, and State	Amount of difference					Percent difference				
	1980	1982	1984	1986	Average	1980	1982	1984	1986	Average
United States	214	443	511	147	329	0.1	0.3	0.3	0.1	0.2
Average absolute difference[1]	6	18	19	18	15	0.25	0.85	0.70	0.65	0.61
Northeast	-9	-33	161	-73	69	0.0	-0.1	0.4	-0.2	0.2
New England	-4	-54	69	-22	37	0.0	-0.6	0.7	-0.2	0.4
Middle Atlantic	-5	21	93	-51	43	0.0	0.1	0.3	-0.2	0.2
Midwest	50	94	148	101	98	0.1	0.2	0.3	0.2	0.2
East North Central	19	32	116	87	64	0.1	0.1	0.4	0.3	0.2
West North Central	30	62	30	14	34	0.2	0.5	0.2	0.1	0.3
South	86	206	97	-88	119	0.2	0.4	0.2	-0.1	0.2
South Atlantic	30	-41	214	48	83	0.1	-0.1	0.7	0.2	0.3
East South Central	32	106	23	-5	42	0.3	1.0	0.2	0.0	0.4
West South Central	24	142	-139	-130	109	0.1	0.8	-0.7	-0.7	0.6
West	87	176	105	207	144	0.3	0.5	0.3	0.6	0.4
Mountain	31	83	11	3	32	0.4	1.0	0.1	0.0	0.4
Pacific	56	92	92	204	111	0.2	0.4	0.4	0.8	0.4
New England:										
Maine	1	-1	8	-	3	0.1	-0.1	0.9	0.0	0.3
New Hampshire	1	2	12	10	6	0.1	0.3	1.7	1.3	0.9
Vermont	1	2	1	1	1	0.3	0.5	0.3	0.2	0.3
Massachusetts	-3	-36	37	-28	26	-0.1	-0.8	0.8	-0.6	0.6
Rhode Island	-	-3	5	-	2	0.0	-0.4	0.7	0.0	0.3
Connecticut	-3	-19	4	-5	8	-0.1	-0.8	0.2	-0.2	0.3
Middle Atlantic:										
New York	-12	-11	36	-66	31	-0.1	-0.1	0.3	-0.5	0.2
New Jersey	5	7	50	-3	16	0.1	0.1	0.9	-0.1	0.3
Pennsylvania	2	26	7	18	13	0.0	0.3	0.1	0.2	0.1
East North Central:										
Ohio	13	25	11	17	17	0.2	0.3	0.1	0.2	0.2
Indiana	9	38	29	-1	19	0.2	1.0	0.7	0.0	0.5
Illinois	11	-2	26	11	13	0.1	0.0	0.3	0.1	0.1
Michigan	-6	-11	61	58	34	-0.1	-0.2	0.9	0.9	0.5
Wisconsin	-8	-18	-11	2	10	-0.2	-0.5	-0.3	0.1	0.3
West North Central:										
Minnesota	6	13	4	14	9	0.2	0.4	0.1	0.5	0.3
Iowa	8	19	2	-17	12	0.4	0.9	0.1	-0.8	0.5
Missouri	1	-4	15	22	11	0.0	-0.1	0.4	0.6	0.3
North Dakota	2	7	-	-7	4	0.4	1.5	0.0	-1.4	0.8
South Dakota	3	12	6	1	6	0.6	2.5	1.2	0.2	1.1
Nebraska	5	7	6	-7	6	0.4	0.6	0.5	-0.6	0.5
Kansas	4	9	-3	7	6	0.2	0.5	-0.2	0.4	0.3
South Atlantic:										
Delaware	-	2	1	6	2	0.0	0.5	0.2	1.3	0.5
Maryland	-2	-14	-	39	14	-0.1	-0.4	0.0	1.2	0.4
District of Columbia	2	2	6	5	4	0.4	0.4	1.2	1.0	0.8
Virginia	10	-3	38	-	13	0.3	-0.1	0.9	0.0	0.3
West Virginia	5	11	-1	-23	10	0.4	0.8	-0.1	-1.6	0.7
North Carolina	9	12	41	-10	18	0.2	0.3	0.9	-0.2	0.4
South Carolina	11	18	3	-15	12	0.5	0.8	0.1	-0.6	0.5
Georgia	2	9	24	28	16	0.1	0.2	0.6	0.6	0.4
Florida	-7	-79	102	16	51	-0.1	-1.0	1.2	0.2	0.6
East South Central:										
Kentucky	6	34	-4	-4	12	0.2	1.3	-0.1	-0.1	0.5
Tennessee	10	33	14	5	16	0.3	1.0	0.4	0.1	0.5
Alabama	9	11	18	-2	10	0.3	0.4	0.6	-0.1	0.4
Mississippi	7	27	-6	-3	11	0.4	1.5	-0.3	-0.2	0.6

Table 5.
Resident Population of Voting Age for States—Difference Between Short-Term Projection and Postcensal Estimate: 1980 to 1986—Continued

(Population in thousands. Difference is postcensal estimate minus projection; base of percents is projection)

Region, division, and State	Amount of difference					Percent difference				
	1980	1982	1984	1986	Average	1980	1982	1984	1986	Average
West South Central:										
Arkansas	-1	11	11	3	7	-0.1	0.7	0.6	0.2	0.4
Louisiana	4	-5	-23	-29	15	0.1	-0.2	-0.7	-0.9	0.5
Oklahoma	8	48	-51	-40	36	0.4	2.0	-2.1	-1.6	1.5
Texas	13	90	-77	-65	61	0.1	0.8	-0.7	-0.5	0.5
Mountain:										
Montana	1	7	-3	-7	5	0.2	1.2	-0.5	-1.2	0.8
Idaho	3	4	8	-12	7	0.5	0.6	1.2	-1.7	1.0
Wyoming	-	-1	-11	-8	5	0.0	-0.3	-3.0	-2.2	1.4
Colorado	9	31	-18	-18	19	0.4	1.4	-0.8	-0.7	0.8
New Mexico	4	15	-2	10	8	0.4	1.6	-0.2	1.0	0.8
Arizona	14	30	57	38	35	0.7	1.5	2.6	1.6	1.6
Utah	-1	7	-16	-7	8	-0.1	0.7	-1.5	-0.7	0.8
Nevada	1	-9	-3	8	5	0.2	-1.4	-0.4	1.1	0.8
Pacific:										
Washington	10	-18	26	6	15	0.3	-0.6	0.8	0.2	0.5
Oregon	8	-1	29	2	10	0.4	-0.1	1.5	0.1	0.5
California	35	80	31	204	38	0.2	0.4	0.2	1.0	0.5
Alaska	3	23	3	-7	9	1.1	8.0	0.9	-1.9	3.0
Hawaii	1	9	3	2	4	0.1	1.3	0.4	0.3	0.5

[1]Average for States.
Source: Postcensal — U.S. Bureau of the Census (1988, 1984, 1986a, 1988)
Projection — U.S. Bureau of the Census (1982, 1984, 1986a)

Table 6.
Estimates of the Percent of the Age-Eligible Population Casting Votes for U.S. Representatives—Difference Between Estimates Based on Postcensal Population Estimates and Intercensal Population Estimates: 1962 to 1978

Difference is postcensal estimate minus intercensal estimate

Region and division	1962	1964	1966	Average absolute difference, 1962-66	1972	1974	1976	1978	Average absolute difference, 1972-78
United States	0.2	-0.1	-0.2	0.2	-0.2	-0.3	-0.7	-0.6	0.5
Average absolute difference[1]	0.69	0.67	0.91	0.82	0.43	0.46	0.83	0.75	0.62
Northeast	-0.9	-0.3	-0.2	0.5	-0.2	-0.2	-0.2	-0.2	0.2
New England	-1.4	-0.6	-1.1	1.0	-0.2	-0.3	-0.3	-0.2	0.2
Middle Atlantic	-0.8	-0.2	0.0	0.3	-0.2	-0.2	-0.2	-0.3	0.2
Midwest	-1.1	-0.3	-0.3	0.6	0.0	-0.1	-0.3	-0.1	0.1
East North Central	-1.2	-0.4	-0.5	0.7	-0.1	-0.1	-0.3	-0.2	0.2
West North Central	-1.0	0.1	0.0	0.4	0.2	0.1	-0.1	0.2	0.2
South	-0.2	0.0	0.0	0.1	-0.4	-0.4	-1.0	-0.7	0.6
South Atlantic	-0.7	-0.3	-0.4	0.5	-0.5	-0.5	-1.2	-0.9	0.8
East South Central	-0.7	0.3	0.5	0.5	-0.3	-0.3	-0.9	-0.8	0.6
West South Central	-0.2	0.2	0.3	0.2	-0.2	-0.3	-0.8	-0.5	0.5
West	-1.2	0.1	-0.6	0.6	-0.4	-0.5	-1.1	-0.9	0.7
Mountain	-1.2	-1.0	-1.6	1.3	-0.4	-0.6	-1.6	-1.4	1.0
Pacific	-1.3	0.5	-0.3	0.7	-0.4	-0.4	-0.9	-0.8	0.6

X Not applicable.
[1]Average for States.
Source: See tables 1 and 2.

Table 7.
Population Eligible to Vote and Not Eligible to Vote, by State: 1980 Census
(Populations in thousands)

Region, division, and State	Total population	Population not eligible to vote					Citizens 18 and over eligible to vote		Persons 18 and over not eligible to vote as a percent of persons 18 and over		
		Total		Population under 18	Prisoners 18 and over	Aliens 18 and over					
		Number	Percent				Number	Percent	Total	Aliens	Prisoners
United States	226,546	69,784	30.8	63,755	297	5,731	157,060	69.3	3.7	3.5	0.2
Northeast	49,135	14,688	29.9	13,083	45	1,560	34,492	70.2	4.5	4.3	0.1
New England	12,348	3,608	29.2	3,281	9	318	8,750	70.9	3.6	3.5	0.1
Middle Atlantic	36,787	11,080	30.1	9,802	36	1,242	25,742	70.0	4.7	4.6	0.1
Midwest	58,866	17,727	30.1	16,918	68	740	41,207	70.0	1.9	1.8	0.2
East North Central	41,682	12,743	30.6	12,065	50	628	28,989	69.5	2.3	2.1	0.2
West North Central	17,183	4,983	29.0	4,853	18	113	12,218	71.1	1.1	0.9	0.1
South	75,372	23,004	30.5	21,638	135	1,231	52,504	69.7	2.5	2.3	0.3
South Atlantic	36,959	10,875	29.4	10,117	72	686	26,158	70.8	2.8	2.6	0.3
East South Central	14,666	4,431	30.2	4,358	18	58	10,253	69.9	0.7	0.5	0.2
West South Central	23,747	7,697	32.4	7,163	46	489	16,095	67.8	3.2	2.9	0.3
West	43,172	14,365	33.3	12,116	49	2,200	28,857	66.8	7.2	7.1	0.2
Mountain	11,373	3,658	32.2	3,458	13	187	7,728	67.9	2.5	2.4	0.2
Pacific	31,800	10,707	33.7	8,658	37	2,013	21,129	66.4	8.9	8.7	0.2
New England:											
Maine	1,125	335	29.8	321	1	13	790	70.3	1.7	1.6	0.1
New Hampshire	921	270	29.3	258	-	11	651	70.7	1.8	1.7	0.0
Vermont	511	153	29.9	145	-	7	359	70.2	2.0	1.9	0.1
Massachusetts	5,737	1,662	29.0	1,490	3	169	4,078	71.1	4.0	4.0	0.1
Rhode Island	947	274	28.9	243	1	30	674	71.2	4.4	4.3	0.1
Connecticut	3,108	915	29.4	823	4	87	2,197	70.7	4.0	3.8	0.2
Middle Atlantic:											
New York	17,558	5,581	31.8	4,688	20	873	11,998	68.3	6.9	6.8	0.2
New Jersey	7,365	2,260	30.7	1,991	6	263	5,111	69.4	5.0	4.9	0.1
Pennsylvania	11,864	3,239	27.3	3,123	9	106	8,634	72.8	1.3	1.2	0.1
East North Central:											
Ohio	10,798	3,192	29.6	3,094	13	85	7,618	70.6	1.3	1.1	0.2
Indiana	5,490	1,659	30.2	1,618	7	34	3,838	69.9	1.1	0.9	0.2
Illinois	11,427	3,598	31.5	3,243	12	343	7,840	68.6	4.3	4.2	0.1
Michigan	9,262	2,896	31.3	2,752	14	130	6,380	68.9	2.2	2.0	0.2
Wisconsin	4,706	1,397	29.7	1,358	4	35	3,313	70.4	1.2	1.1	0.1
West North Central:											
Minnesota	4,076	1,208	29.6	1,172	3	34	2,871	70.4	1.3	1.2	0.1
Iowa	2,914	844	29.0	826	2	16	2,072	71.1	0.9	0.8	0.1
Missouri	4,917	1,396	28.4	1,362	6	27	3,527	71.7	0.9	0.8	0.2
North Dakota	653	195	29.9	191	-	4	458	70.2	0.9	0.8	0.1
South Dakota	691	210	30.3	206	1	3	482	69.8	0.8	0.6	0.2
Nebraska	1,570	458	29.2	447	1	9	1,113	70.9	0.9	0.8	0.1
Kansas	2,364	673	28.5	649	5	20	1,695	71.7	1.4	1.1	0.3
South Atlantic:											
Delaware	594	173	29.2	167	1	6	422	71.0	1.6	1.3	0.3
Maryland	4,217	1,254	29.7	1,168	7	80	2,970	70.4	2.8	2.6	0.2
District of Columbia	638	167	26.1	143	1	22	473	74.1	4.7	4.4	0.3
Virginia	5,347	1,557	29.1	1,474	8	74	3,798	71.0	2.1	1.9	0.2
West Virginia	1,950	569	29.2	560	2	7	1,383	70.9	0.7	0.5	0.2
North Carolina	5,882	1,703	29.0	1,658	16	29	4,195	71.3	1.1	0.7	0.4
South Carolina	3,122	965	30.9	942	7	16	2,164	69.3	1.1	0.7	0.3
Georgia	5,463	1,693	31.0	1,646	12	36	3,781	69.2	1.2	0.9	0.3
Florida	9,746	2,795	28.7	2,360	17	418	6,969	71.5	5.9	5.7	0.2
East South Central:											
Kentucky	3,661	1,101	30.1	1,083	5	13	2,565	70.1	0.7	0.5	0.2
Tennessee	4,591	1,324	28.8	1,299	6	19	3,273	71.3	0.8	0.6	0.2
Alabama	3,894	1,179	30.3	1,162	4	13	2,718	69.8	0.6	0.5	0.1
Mississippi	2,521	826	32.8	814	2	10	1,697	67.3	0.7	0.6	0.1

Table 7.
Population Eligible to Vote and Not Eligible to Vote, by State: 1980 Census—Continued
(Populations in thousands)

Region, division, and State	Total population	Population not eligible to vote					Citizens 18 and over eligible to vote		Persons 18 and over not eligible to vote as a percent of persons 18 and over		
		Total		Population under 18	Prisoners 18 and over	Aliens 18 and over	Number	Percent	Total	Aliens	Prisoners
		Number	Percent								
West South Central:											
Arkansas	2,286	682	29.8	671	3	8	1,607	70.3	0.7	0.5	0.2
Louisiana	4,206	1,373	32.6	1,330	7	35	2,841	67.5	1.5	1.2	0.3
Oklahoma	3,025	886	29.3	855	5	26	2,145	70.9	1.4	1.2	0.2
Texas	14,229	4,757	33.4	4,306	30	420	9,503	66.8	4.5	4.2	0.3
Mountain:											
Montana	787	236	30.0	232	1	4	551	70.0	0.8	0.7	0.1
Idaho	944	317	33.6	307	1	10	627	66.5	1.7	1.5	0.1
Wyoming	470	150	31.9	146	-	4	320	68.2	1.2	1.1	0.1
Colorado	2,890	855	29.6	809	3	43	2,038	70.5	2.2	2.1	0.1
New Mexico	1,303	440	33.7	418	2	20	865	66.4	2.5	2.3	0.2
Arizona	2,718	860	31.6	791	4	65	1,862	68.5	3.6	3.4	0.2
Utah	1,461	560	38.3	540	1	19	902	61.7	2.2	2.1	0.1
Nevada	800	240	30.0	216	2	23	562	70.2	4.2	3.9	0.3
Pacific:											
Washington	4,132	1,231	29.8	1,139	5	87	2,905	70.3	3.1	2.9	0.2
Oregon	2,633	767	29.1	723	3	41	1,869	71.0	2.3	2.2	0.1
California	23,668	8,234	34.8	6,389	28	1,817	15,462	65.3	10.7	10.5	0.2
Alaska	402	137	34.1	131	-	6	265	66.0	2.3	2.1	0.2
Hawaii	965	337	35.0	276	1	61	628	65.1	9.0	8.9	0.1

Table 8.
Percent of Population Voting Based on Different Denominators from the 1980 Census, for States: 1980 Presidential Election

(Population in thousands)

Region, division, and State	Votes cast for President	1980 population			Percent voting			Difference from percent of total 18 and over	
		Total 18 and over	Citizens 18 and over	Eligible voters only*	Total 18 and over	Citizens 18 and over	Eligible voters only*	Citizens 18 and over	Eligible voters
United States	86,497	162,791	157,060	156,762	53.1	55.1	55.2	1.9	2.0
Northeast	19,206	36,052	34,492	34,447	53.3	55.7	55.8	2.4	2.5
New England	5,467	9,068	8,750	8,741	60.3	62.5	62.5	2.2	2.3
Middle Atlantic	13,739	26,985	25,742	25,706	50.9	53.4	53.4	2.5	2.5
Midwest	25,176	41,947	41,207	41,139	60.0	61.1	61.2	1.1	1.2
East North Central	17,458	29,617	28,989	28,939	58.9	60.2	60.3	1.3	1.4
West North Central	7,718	12,330	12,218	12,200	62.6	63.2	63.3	0.6	0.7
South	25,806	53,735	52,504	52,369	48.0	49.2	49.3	1.1	1.3
South Atlantic	12,582	26,842	26,156	26,084	46.9	48.1	48.2	1.2	1.4
East South Central	5,147	10,309	10,253	10,235	49.9	50.2	50.3	0.3	0.4
West South Central	8,078	16,584	16,095	16,050	48.7	50.2	50.3	1.5	1.6
West	16,309	31,057	28,857	28,807	52.5	56.5	56.6	4.0	4.1
Mountain	4,341	7,915	7,728	7,715	54.8	56.2	56.3	1.3	1.4
Pacific	11,969	23,142	21,129	21,093	51.7	56.6	56.7	4.9	5.0
New England:									
Maine	523	803	790	789	65.1	66.2	66.2	1.1	1.1
New Hampshire	384	663	651	651	58.0	59.0	59.0	1.0	1.0
Vermont	213	366	359	359	58.3	59.4	59.5	1.1	1.2
Massachusetts	2,524	4,247	4,078	4,075	59.4	61.9	61.9	2.5	2.5
Rhode Island	416	704	674	673	59.1	61.7	61.8	2.6	2.7
Connecticut	1,406	2,285	2,197	2,193	61.6	64.0	64.1	2.5	2.6
Middle Atlantic:									
New York	6,202	12,870	11,998	11,977	48.2	51.7	51.8	3.5	3.6
New Jersey	2,978	5,374	5,111	5,105	55.4	58.2	58.3	2.9	2.9
Pennsylvania	4,562	8,741	8,634	8,625	52.2	52.8	52.9	0.6	0.7
East North Central:									
Ohio	4,284	7,703	7,618	7,605	55.6	56.2	56.3	0.6	0.7
Indiana	2,242	3,872	3,836	3,831	57.9	58.4	58.5	0.5	0.6
Illinois	4,750	8,183	7,840	7,828	58.0	60.6	60.7	2.5	2.6
Michigan	3,910	6,510	6,380	6,366	60.1	61.3	61.4	1.2	1.4
Wisconsin	2,273	3,348	3,313	3,309	67.9	68.6	68.7	0.7	0.8
West North Central:									
Minnesota	2,052	2,904	2,871	2,868	70.7	71.5	71.5	0.8	0.9
Iowa	1,318	2,088	2,072	2,070	63.1	63.6	63.7	0.5	0.6
Missouri	2,100	3,554	3,527	3,521	59.1	59.5	59.6	0.5	0.6
North Dakota	301	462	458	458	65.2	65.7	65.8	0.5	0.6
South Dakota	328	485	482	481	67.5	68.0	68.1	0.4	0.6
Nebraska	640	1,123	1,113	1,112	57.0	57.4	57.5	0.5	0.5
Kansas	980	1,715	1,695	1,690	57.1	57.8	58.0	0.7	0.8
South Atlantic:									
Delaware	236	428	422	421	55.1	55.8	56.0	0.7	0.9
Maryland	1,540	3,049	2,970	2,963	50.5	51.9	52.0	1.4	1.5
District of Columbia	174	495	473	472	35.1	36.7	36.9	1.6	1.7
Virginia	1,866	3,872	3,798	3,790	48.2	49.1	49.2	0.9	1.0
West Virginia	738	1,390	1,383	1,381	53.1	53.3	53.4	0.3	0.3
North Carolina	1,856	4,224	4,195	4,179	43.9	44.2	44.4	0.3	0.5
South Carolina	888	2,180	2,164	2,157	40.7	41.0	41.2	0.3	0.4
Georgia	1,597	3,817	3,781	3,770	41.8	42.2	42.4	0.4	0.5
Florida	3,687	7,387	6,969	6,952	49.9	52.9	53.0	3.0	3.1
East South Central:									
Kentucky	1,296	2,578	2,565	2,559	50.3	50.5	50.6	0.3	0.4
Tennessee	1,618	3,293	3,273	3,267	49.1	49.4	49.5	0.3	0.4
Alabama	1,342	2,732	2,718	2,715	49.1	49.4	49.4	0.2	0.3
Mississippi	892	1,706	1,697	1,694	52.3	52.6	52.6	0.3	0.4

Table 8.
Percent of Population Voting Based on Different Denominators from the 1980 Census, for States: 1980 Presidential Election—Continued

(Population in thousands)

Region, division, and State	Votes cast for President	1980 population			Percent voting			Difference from percent of total 18 and over	
		Total 18 and over	Citizens 18 and over	Eligible voters only*	Total 18 and over	Citizens 18 and over	Eligible voters only*	Citizens 18 and over	Eligible voters
West South Central:									
Arkansas	838	1,615	1,607	1,605	51.9	52.1	52.2	0.2	0.3
Louisiana	1,549	2,875	2,841	2,833	53.9	54.5	54.7	0.7	0.8
Oklahoma	1,150	2,170	2,145	2,139	53.0	53.6	53.7	0.6	0.8
Texas	4,542	9,923	9,503	9,472	45.8	47.8	47.9	2.0	2.2
Mountain:									
Montana	364	555	551	550	65.6	66.1	66.1	0.5	0.5
Idaho	437	637	627	627	68.6	69.7	69.8	1.1	1.2
Wyoming	177	324	320	320	54.5	55.2	55.2	0.6	0.7
Colorado	1,184	2,081	2,038	2,035	56.9	58.1	58.2	1.2	1.3
New Mexico	456	885	865	863	51.6	52.8	52.9	1.2	1.3
Arizona	874	1,927	1,862	1,858	45.4	46.9	47.0	1.6	1.7
Utah	604	921	902	901	65.6	67.0	67.1	1.4	1.5
Nevada	244	585	562	560	41.7	43.4	43.5	1.7	1.8
Pacific:									
Washington	1,742	2,993	2,906	2,901	58.2	60.0	60.1	1.8	1.8
Oregon	1,182	1,910	1,869	1,866	61.9	63.2	63.3	1.4	1.5
California	8,583	17,279	15,462	15,434	49.7	55.5	55.6	5.8	5.9
Alaska	158	271	265	265	58.4	59.7	59.8	1.3	1.4
Hawaii	303	689	628	627	44.0	48.3	48.4	4.3	4.3

* Excludes persons under 18 plus prisoners and aliens aged 18 and over.

Table 9.
Percent of Population Voting Based on Different Denominators, for States: 1980 Presidential Election

(Population in thousands)

Region, division, and State	Votes cast for President	1980 population			Percent voting			Difference in percent voting		
		Eligible voters only*	Short-term projection	Interc-ensal estimate	Eligible voters only*	Short-term projection	Interc-ensal estimate	Projection minus eligible	Estimate minus eligible	Estimate minus projection
United States	86,497	156,762	160,493	164,597	55.2	53.9	52.6	-1.3	-2.6	-1.3
Average absolute difference[1]	(X)	(X)	(X)	(X)	(X)	(X)	(X)	1.34	1.98	1.55
Northeast	19,206	34,447	36,062	36,287	55.8	53.3	52.9	-2.5	-2.8	-0.3
New England	5,467	8,741	9,112	9,145	62.5	60.0	59.8	-2.5	-2.8	-0.2
Middle Atlantic	13,739	25,706	26,950	27,142	53.4	51.0	50.6	-2.5	-2.8	-0.4
Midwest	25,176	41,139	42,066	42,194	61.2	59.8	59.7	-1.3	-1.5	-0.2
East North Central	17,458	28,939	29,599	29,766	60.3	59.0	58.7	-1.3	-1.7	-0.3
West North Central	7,718	12,200	12,467	12,428	63.3	61.9	62.1	-1.4	-1.2	0.2
South	25,806	52,369	51,947	54,557	49.3	49.7	47.3	0.4	-2.0	-2.4
South Atlantic	12,582	26,084	25,737	27,274	48.2	48.9	46.1	0.6	-2.1	-2.8
East South Central	5,147	10,235	10,089	10,399	50.3	51.0	49.5	0.7	-0.8	-1.5
West South Central	8,078	16,050	16,121	16,884	50.3	50.1	47.8	-0.2	-2.5	-2.3
West	16,309	28,807	30,418	31,559	56.6	53.6	51.7	-3.0	-4.9	-1.9
Mountain	4,341	7,715	7,661	8,068	56.3	56.7	53.8	0.4	-2.5	-2.9
Pacific	11,969	21,093	22,757	23,491	56.7	52.6	50.9	-4.2	-5.8	-1.6
New England:										
Maine	523	789	790	811	66.2	66.2	64.5	0.0	-1.8	-1.7
New Hampshire	384	651	657	672	59.0	58.4	57.1	-0.5	-1.9	-1.3
Vermont	213	359	359	370	59.5	59.4	57.6	0.0	-1.8	-1.8
Massachusetts	2,524	4,075	4,298	4,278	61.9	58.7	59.0	-3.2	-2.9	0.3
Rhode Island	416	673	687	710	61.8	60.5	58.6	-1.2	-3.2	-2.0
Connecticut	1,406	2,193	2,321	2,304	64.1	60.6	61.0	-3.5	-3.1	0.4
Middle Atlantic:										
New York	6,202	11,977	12,900	12,933	51.8	48.1	48.0	-3.7	-3.8	-0.1
New Jersey	2,976	5,105	5,398	5,422	58.3	55.1	54.9	-3.2	-3.4	-0.2
Pennsylvania	4,562	8,625	8,652	8,787	52.9	52.7	51.9	-0.2	-1.0	-0.8
East North Central:										
Ohio	4,284	7,605	7,701	7,744	56.3	55.6	55.3	-0.7	-1.0	-0.3
Indiana	2,242	3,831	3,849	3,892	58.5	58.2	57.6	-0.3	-0.9	-0.6
Illinois	4,750	7,828	8,046	8,235	60.7	59.0	57.7	-1.6	-3.0	-1.4
Michigan	3,910	6,366	6,557	6,520	61.4	59.6	60.0	-1.8	-1.5	0.3
Wisconsin	2,273	3,309	3,446	3,375	68.7	66.0	67.4	-2.7	-1.4	1.4
West North Central:										
Minnesota	2,052	2,868	2,957	2,933	71.5	69.4	70.0	-2.2	-1.6	0.6
Iowa	1,318	2,070	2,093	2,099	63.7	63.0	62.8	-0.7	-0.9	-0.2
Missouri	2,100	3,521	3,569	3,578	59.6	58.8	58.7	-0.8	-0.9	-0.1
North Dakota	301	458	469	467	65.8	64.2	64.5	-1.6	-1.3	0.3
South Dakota	328	481	485	488	68.1	67.6	67.2	-0.5	-0.9	-0.4
Nebraska	640	1,112	1,138	1,133	57.5	56.2	56.4	-1.3	-1.1	0.2
Kansas	980	1,690	1,756	1,730	58.0	55.8	56.6	-2.2	-1.3	0.8
South Atlantic:	235	421	420	432	56.0	56.1	54.6	0.1	-1.4	-1.6
Maryland	1,540	2,963	3,039	3,080	52.0	50.7	50.0	-1.3	-2.0	-0.7
Dist. of Columbia	174	472	475	495	36.9	36.6	35.1	-0.2	-1.7	-1.5
Virginia	1,866	3,790	3,817	3,930	49.2	48.9	47.5	-0.3	-1.8	-1.4
West Virginia	738	1,381	1,357	1,400	53.4	54.4	52.7	0.9	-0.7	-1.7
North Carolina	1,856	4,179	4,055	4,274	44.4	45.8	43.4	1.4	-1.0	-2.3
South Carolina	888	2,157	2,069	2,215	41.2	42.9	40.1	1.7	-1.1	-2.8
Georgia	1,597	3,770	3,629	3,870	42.4	44.0	41.3	1.6	-1.1	-2.7
Florida	3,687	6,952	6,876	7,578	53.0	53.6	48.7	0.6	-4.4	-5.0
East South Central:										
Kentucky	1,296	2,559	2,532	2,596	50.6	51.2	49.9	0.5	-0.7	-1.3
Tennessee	1,618	3,267	3,205	3,323	49.5	50.5	48.7	1.0	-0.8	-1.8
Alabama	1,342	2,715	2,702	2,757	49.4	49.7	48.7	0.2	-0.8	-1.0
Mississippi	892	1,694	1,650	1,723	52.6	54.0	51.8	1.4	-0.9	-2.3

Table 9.
Percent of Population Voting Based on Different Denominators, for States: 1980 Presidential Election—Continued
(Population in thousands)

Region, division, and State	Votes cast for President	1980 population			Percent voting			Difference in percent voting		
		Eligible voters only*	Short-term projection	Interc-ensal estimate	Eligible voters only*	Short-term projection	Interc-ensal estimate	Projection minus eligible	Estimate minus eligible	Estimate minus projection
West South Central:										
Arkansas	838	1,605	1,562	1,628	52.2	53.6	51.4	1.4	-0.8	-2.2
Louisiana	1,549	2,833	2,780	2,919	54.7	55.7	53.1	1.0	-1.6	-2.7
Oklahoma	1,150	2,139	2,131	2,207	53.7	54.0	52.1	0.2	-1.6	-1.9
Texas	4,542	9,472	9,648	10,130	47.9	47.1	44.8	-0.9	-3.1	-2.2
Mountain:										
Montana	364	550	560	560	66.1	65.0	65.0	-1.1	-1.1	0.0
Idaho	437	627	634	646	69.8	69.0	67.7	-0.8	-2.1	-1.3
Wyoming	177	320	335	332	55.2	52.8	53.2	-2.5	-2.0	0.5
Colorado	1,184	2,035	2,050	2,123	58.2	57.8	55.8	-0.4	-2.4	-2.0
New Mexico	456	883	869	900	52.9	52.5	50.7	-0.4	-2.2	-1.8
Arizona	874	1,858	1,779	1,970	47.0	49.1	44.4	2.1	-2.7	-4.8
Utah	604	901	901	935	67.1	67.1	64.6	0.0	-2.5	-2.4
Nevada	244	560	533	602	43.5	45.7	40.5	2.2	-3.0	-5.2
Pacific:										
Washington	1,742	2,901	2,978	3,040	60.1	58.5	57.3	-1.6	-2.8	-1.2
Oregon	1,182	1,866	1,909	1,929	63.3	61.9	61.3	-1.4	-2.1	-0.6
California	8,583	15,434	16,956	17,548	55.6	50.6	48.9	-5.0	-6.7	-1.7
Alaska	158	265	257	277	59.8	61.7	57.2	1.8	-2.6	-4.5
Hawaii	303	627	657	697	48.4	46.2	43.5	-2.2	-4.8	-2.6

X Not applicable.
* Excludes persons under 18 plus prisoners and aliens aged 18 and over. April 1 population; others are November populations.
†Average for States.

Appendix A.

Source and Accuracy of Estimates

Source of Data

Most estimates in the second paper in this report come from data obtained in November of years 1964 through 1988 in the Current Population Survey (CPS). The Bureau of the Census conducts the survey every month, although this report uses mostly November data for its estimates. The November survey uses two sets of questions, the basic CPS and the supplement.

Basic CPS. The basic CPS collects primarily labor force data about the civilian noninstitutional population. Interviewers ask questions concerning labor force participation about each member 14 years old and over in every sample household.

The present CPS sample was selected from the 1980 decennial census files with coverage in all 50 states and the District of Columbia. The sample is continually updated to account for new residential construction. It is located in 729 areas comprising 1,973 counties, independent cities, and minor civil divisions. About 56,100 occupied housing units are eligible for interview every month. Interviewers are unable to obtain interviews at about 2,500 of these units because the occupants are not home after repeated calls or are unavailable for some other reason.

Since the introduction of the CPS, the Bureau of the Census has redesigned the CPS sample several times to improve the quality and reliability of the data and to satisfy changing data needs. The most recent changes were completely implemented in July 1985.

The following table summarizes changes in the CPS designs for the years for which data appear in this report.

November 1988 Supplement. In addition to the basic CPS questions, interviewers asked supplementary questions in November 1988 about voting and registration.

Estimation Procedure. This survey's estimation procedure inflates weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, sex, race, and Hispanic origin. The independent estimates were based on statistics from decennial censuses of population; statistics on births, deaths, immigration and emigration; and statistics on the size of the Armed Forces. The independent population estimates used from 1981 to the present were based on updates to controls established by the 1980 decennial census. Data before 1981 were based on independent population estimates from the most recent decennial census. For more details on the change in independent estimates, see the section entitled "Introduction of 1980 Census Population Controls" in an earlier report (Series P-60, No. 133).

Description of the Current Population Survey

Time period	Number of sample areas	Housing units eligible	
		Interviewed	Not interviewed
1988	729	53,600	2,500
1986	729	57,000	2,500
1982-84	629	59,000	2,500
1980	629	65,500	3,000
1978	614	55,000	3,000
1974-76	461	46,500	2,500
1972	449	45,000	2,000
1968-70	449	48,000	2,000
1964-66	357	33,500	1,500

The estimates in this report for 1985 and later also employ a revised survey weighting procedure for persons of Hispanic origin. In previous years, weighted sample results were inflated to independent estimates of the noninstitutional population by age, sex, and race. There was no specific control of the survey estimates for the Hispanic population. Since then, the Bureau of the Census developed independent population controls for the Hispanic population by sex and detailed age groups. Revised weighting procedures incorporate these new controls. The independent population estimates include some, but not all, undocumented immigrants.

Accuracy of the Estimates

Since the CPS estimates come from a sample, they may differ from figures from a complete census using the same questionnaires, instructions, and enumerators. A sample survey estimate has two possible types of error: sampling and nonsampling. The accuracy of an estimate depends on both types of error, but the full extent of the nonsampling error is unknown. Consequently, one should be particularly careful when interpreting results based on a relatively small number of cases or on small differences between estimates. The standard errors for CPS estimates primarily indicate the magnitude of sampling error. They also partially measure the effect of some nonsampling errors in responses and enumeration, but do not measure systematic biases in the data. (Bias is the average over all possible samples of the differences between the sample estimates and the desired value.)

Nonsampling Variability. Nonsampling errors can be attributed to many sources. These sources include the inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, respondents' inability or unwillingness to provide correct information or to recall information, errors made in data collection such as in recording or coding the data, errors made in processing the data, errors made in estimating values for missing data, and failure to represent all units with the sample (undercoverage).

CPS undercoverage results from missed housing units and missed persons within sample households. Compared to the level of the 1980 decennial census, overall CPS undercoverage is about 7 percent. CPS undercoverage varies with age, sex, and race. Generally, undercoverage is larger for males than for females and larger for Blacks and other races combined than for Whites. As described previously, ratio

estimation to independent age-sex-race-Hispanic population controls partially corrects for the bias due to undercoverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have different characteristics from those of interviewed persons in the same age-sex-race-Hispanic group. Furthermore, the independent population controls have not been adjusted for undercoverage in the 1980 census.

For additional information on nonsampling error, including the possible impact on CPS data, when known, refer to Statistical Policy Working Paper 3, An Error Profile: Employment as Measured by the Current Population Survey, Office of Federal Statistical Policy and Standards, U.S. Department of Commerce, 1978 and Technical Paper 40, The Current Population Survey: Design and Methodology, Bureau of the Census, U.S. Department of Commerce.

Sampling Variability. Sampling variability is variation that occurred by chance because a sample was surveyed rather than the entire population. Standard errors, as calculated by methods described later in "Standard Errors and Their Use," are primarily measures of sampling variability, although they may include some nonsampling error.

Comparability of Data. Data obtained from the CPS and other sources are not entirely comparable. This results from differences in interviewer training and experience and in differing survey processes. This is an example of nonsampling variability not reflected in the standard errors. Use caution when comparing results from different sources.

Caution should also be used when comparing estimates in this report, which reflect 1980 census-based population controls, with estimates for 1980 and earlier years, which reflect 1970 census-based population controls. This change in population controls had relatively little impact on summary measures such as means, medians, and percentage distributions, but did have a significant impact on levels. For example, use of 1980 based population controls results in about a 2-percent increase in the civilian noninstitutional population and in the number of families and households. Thus, estimates of levels for data collected in 1981 and later years will differ from those for earlier years by more than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain subpopulation groups than for the total population.

Since no independent population control totals for persons of Hispanic origin were used before 1985, compare Hispanic estimates over time cautiously.

Note When Using Small Estimates. Summary measures (such as medians and percentage distributions) are shown only when the base is 75,000 or greater. Because of the large standard errors involved, summary measures would probably not reveal useful information when computed on a smaller base. However, estimated numbers are shown even though the relative standard errors of these numbers are larger than those for corresponding percentages. These smaller estimates permit combinations of the categories to suit data users' needs. Take care in the interpretation of small differences. For instance, even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Standard Errors and Their Use. A number of approximations are required to derive, at a moderate cost, standard errors applicable to all the estimates in this report. Instead of providing an individual standard error for each estimate, generalized sets of standard errors are provided for various types of characteristics. Thus, the tables show levels of magnitude of standard errors rather than the precise standard errors.

The sample estimate and its standard error enable one to construct a confidence interval, a range that would include the average result of all possible samples with a known probability. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples.

A particular confidence interval may or may not contain the average estimate derived from all possible samples. However, one can say with specified confidence that the interval includes the average estimate calculated from all possible samples.

Some statements in the report may contain estimates followed by a number in parentheses. This number can be added to and subtracted from the estimate to calculate upper and lower bounds of the 90-percent confidence interval. For example, if a statement contains the phrase "grew by 1.7 percent (1.0)," the 90-percent confidence interval for the estimate, 1.7 percent, is 0.7 percent to 2.7 percent.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The most common type of hypothesis appearing in this report is that the population parameters are different. An example of this would be comparing the voting turnout rates of 1988 and 1984.

Tests may be performed at various levels of significance, where a significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. All statements of comparison in the text have passed a hypothesis test at the 0.10 level of significance or better. This means that the absolute value of the estimated difference between characteristics is greater than or equal to 1.6 times the standard error of the difference.

Standard Errors of Estimated Numbers. There are two ways to compute

the approximate standard error, s_x, of an estimated number shown in this report. The first uses the formula

$$s_x = fs \qquad (1)$$

where f is a factor from tables A–5 through A–7, and s is the standard error of the estimate obtained by interpolation from table A–1. The second method uses formula (2), from which the standard errors in table A–1 were calculated. This formula will provide more accurate results than formula (1).

$$s_x = \sqrt{ax^2 + bx} \qquad (2)$$

Here x is the size of the estimate and a and b are the parameters in tables A–5 through A–7 associated with the particular type of characteristic. When calculating standard errors for numbers from cross–tabulations involving different characteristics, use the factor or set of parameters for the characteristic which will give the largest standard error.

Illustration 1.

Table A of the report shows the CPS estimate for the number of voters in 1984 as 101,878,000. Referring to CPS Counts in the Characteristic column in table A–5 shows f = 1.00. As this f value reflects 1988 data, it must be adjusted before it can represent data from 1984. The footnoted table on page 13 (A–5 weight table) shows the 1984 weight as 0.92. Hence, the 1984 f = (1.00)(0.92) = 0.92. Table A–1, via interpolation, shows s = 408,000. Inserting these values into formula (1) produces a standard error of

$$s_x = (0.92)(408{,}000) = 375{,}000$$

Alternatively, use formula (2) to calculate the standard error. Table A–5 reveals a = 0.000021 and b = 3,827. As with f above, these parameters must be weighted to reflect 1984 data. Espying 0.84 in the A–5 weight table results in a = (–0.000021)(0.84) = –0.000018 and b = (3,827)(0.84) = 3,215. Inserting these values into formula (2) propagates a standard error of

$$s_x = \sqrt{-0.000018 \times 101{,}878{,}000^2 + 3{,}215 \times 101{,}878{,}000} = 375{,}000$$

So, the 90 percent confidence interval for the CPS estimate for the number of voters in 1984 is from 101,284,400 to 102,471,600 (101,878,000 $\pm$ 1.6 x 371,000). Approximately 90 percent of all confidence intervals will contain the population mean if 90 percent confidence intervals are constructed for all possible samples.

Standard Errors of Estimated Percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the factor or parameter from tables A–5 through A–7 indicated by the numerator.

The approximate standard error, $s_{x,p}$, of an estimated percentage can be obtained by using the formula

$$s_{x,p} = fs \qquad (3)$$

In this formula, f is the appropriate factor from tables A–5 through A–7, and s is the standard error of the estimate obtained by interpolation from table A–2, A–3, or A–4.

Alternatively, formula (4) will provide more accurate results:

$$s_{x,p} = \sqrt{bp(100-p)/x} \qquad (4)$$

Here x is the total number of persons, families, households, or unrelated individuals in the base of the percentage; p is the percentage ($0 < p < 100$); and b is the parameter in tables A–5 through A–7 associated with the numerator's characteristic.

Illustration 2.

Table A of the report shows 63 percent as the CPS estimate of voter turnout in 1972. Dividing the CPS estimated number of voters in 1972 (table A) by this rate results in a 1972 voting–age population estimate of 85,766,000/.63 = 136,137,000. Table A–5 shows f = 1.00. The A–5 weight table indicates f must be adjusted by 0.81 to reflect 1972 data. Hence, the new f = (1.00)(0.81) = 0.81.

Finding the standard error s requires interpolation within table A–2. Note there is no column for the 63 percent voter turnout rate and no row for the voting–age population estimate. Two interpolations, one each in the base estimate rows of 110,000 and 150,000, between columns 25 or 75 and 50, are necessary to obtain pertinent values for the 63 percent rate and for the estimates 136,137,000 lies between. Interpolating these resultant values yields the desired s, where s = .25.

Inserting the above f and s values into formula (3) bears a standard error of

$$s_{x,p} = (0.81)(0.25) = 0.20$$

One might want to obtain the standard error using formula (4). Table A–5 lists b = 3,827. Since the A–5 weight table gives a 1972 adjustment factor of .66, the weighted b becomes b = (3,827)(.66) = 2,526. Placing these values into formula (4) engenders a standard error of

$$s_{x,p} = \sqrt{\frac{(2{,}526)(63)(100-63)}{136{,}137{,}000}} = 0.20$$

The 90–percent confidence interval for the CPS estimate of the 1972 voter turnout rate is from 62.8 to 63.2 percent (63 $\pm$ (1.60.2).

Standard Error of a Difference. The standard error of the difference between two sample estimates is approximately equal to

$$s_{x-y} = \sqrt{s_x^2 + s_y^2} \qquad (5)$$

where s_x and s_y are the standard errors of the estimates, x and y. The estimates can be numbers, percentages, ratios, etc. This approximates the actual standard error for the difference between estimates of the same characteristic in two different areas, and for the difference between separate and uncorrelated characteristics in the same area. However, if there is a high positive (negative) correlation between the two characteristics, the formula will overestimate (underestimate) the true standard error.

Illustration 3.

Table A of the report shows the CPS estimate for the number of voters in 1980 as 93,066,000. Table A-5 shows f = 1.00. Again, f must be adjusted to correspond with non-1989 data. The A-5 weight table lists a weight of 0.81 for 1980, changing f to f = (1.00)(0.81) = 0.81. An interpolation in Table I finds s = 409,000. Inserting these values into formula (1) gives a standard error of

sy = (0.81)(409,000) = 331,000.

Suppose a comparison of the 1980 and 1984 CPS estimates for the number of voters is desired. From Illustration 1 the 1984 estimate is 101,878,000 with a standard error of sx = 375,000. The apparent difference between the 1980 and 1984 cps estimates is 101,878,000 - 93,066,000 = 8,812,000. Using formula (5), the standard error of the estimated difference is approximately

$$s_{x-y} = \sqrt{375{,}000^2 + 331{,}000^2} = 500{,}000 \quad (2)$$

The 90 percent confidence interval around this difference is from 8,012,000 to 9,612,000 (8,812,000 $\pm$ 1.6 x 500,000). Note this interval does not include zero. This indicates the CPS estimate for the number of voters for 1984 is greater than the CPS estimate for 1980.

Standard Error of a Ratio. Certain estimates may be calculated as the ratio of two numbers. The standard error of a ratio, x/y, may be computed using

$$s_{x/y} = \frac{x}{y}\sqrt{\left[\frac{s_x}{x}\right]^2 + \left[\frac{s_y}{y}\right]^2 - 2r\frac{s_x s_y}{xy}} \quad (6)$$

The standard error of the numerator, sx, and that of the denominator, sy, may be calculated using formula (2). Alternatively, use formula (1) and Tables A-1 through A-4 to solve for sx and sy. In formula (6) r represents the correlation between the numerator and the denominator of the estimate. For one type of ratio, the denominator is a count of families or households and the numerator is a count of persons in those families or households with a certain characteristic. If there is at least one person with the characteristic in every family or household, use 0.7 as an estimate of r. An example of this type is the mean number of children per family with children.

For all other types of ratios, r is assumed to be zero. If r is actually positive (negative), then this procedure will provide an overestimate (underestimate) of the standard error of the ratio. An example of this type of ratio is given in the illustration below.

NOTE: For estimates expressed as the ratio of x per 100 y or x per 1,000 y, multiply formula (6) by 100 or 1,000, respectively, to obtain the standard error.

Illustration 4.

Table A of the report shows the 1976 CPS estimate for the voter turnout rate as 59.2 percent. Dividing the 1976 CPS estimate for the total number of voters by this rate propagates a 1976 voting-age population estimate of 86,698,000/.592 = 146,449,000. Table A-5 displays the parameter b = 3,827 while the A-5 weight table lists the 1976 adjustment factor as 0.66. Hence, b = (3,827)(0.66) = 2,526 for 1976 data. Inserting these values into formula (4) results in a standard error of

$$s_{x,p} = \sqrt{\frac{(2{,}526)(59.2)(1-59.2)}{146{,}449{,}000}} = 0.2$$

From illustration 2 the CPS estimate for the 1972 voter turnout rate is 63 percent with a standard error $s_{x,p}$ = 0.2. The ratio of the 1972 rate to the 1976 rate is 63/59.2 = 1.064. Placing these values into formula (6), with r = 0, generates a standard error of

$$s_{x,y} = 1.064\sqrt{\left[\frac{0.2}{63}\right]^2 + \left[\frac{0.2}{59.2}\right]^2} = .0049$$

The 90-percent confidence interval around this ratio is from 1.056 to 1.072 (1.064 1.6.0049).

Table A-1.
Standard Errors of Estimated Numbers of Persons

(Numbers in thousands)

Estimate	Total or White	Black	Hispanic
25	10	12	15
50	14	17	22
75	17	20	27
100	20	24	31
250	31	37	48
750	53	64	83
1,000	62	73	95
2,500	97	111	144
5,000	136	145	188
7,500	166	161	209
10,000	190	166	216
15,000	229	142	184
20,000	261	(X)	(X)
25,000	287	(X)	(X)
50,000	371	(X)	(X)
75,000	408	(X)	(X)
100,000	410	(X)	(X)
110,000	401	(X)	(X)
150,000	301	(X)	(X)

X Not applicable.
NOTE: For a particular characteristic, see tables A-5 through A-7 for the factor to apply to the above standard errors.

Table A-2.
Standard Errors of Estimated Percentages for Total or White Persons
(Bases in thousands)

Base of estimate	Estimated percentage					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
25	5.5	8.5	11.7	15.7	16.9	19.6
50	3.9	6.0	8.3	11.1	12.0	13.8
75	3.2	4.9	6.8	9.0	9.8	11.3
100	2.7	4.3	5.9	7.8	8.5	9.8
250	1.7	2.7	3.7	5.0	5.4	6.2
750	1.0	1.6	2.1	2.9	3.1	3.6
1,000	0.9	1.4	1.9	2.5	2.7	3.1
2,500	0.6	0.9	1.2	1.6	1.7	2.0
5,000	0.4	0.6	0.8	1.1	1.2	1.4
7,500	0.3	0.5	0.7	0.9	1.0	1.1
10,000	0.3	0.4	0.6	0.8	0.9	1.0
15,000	0.2	0.4	0.5	0.6	0.7	0.8
20,000	0.2	0.3	0.4	0.6	0.6	0.7
25,000	0.2	0.3	0.4	0.5	0.5	0.6
50,000	0.12	0.2	0.3	0.4	0.4	0.4
75,000	0.10	0.2	0.2	0.3	0.3	0.4
100,000	0.09	0.13	0.2	0.3	0.3	0.3
110,000	0.08	0.13	0.2	0.2	0.3	0.3
150,000	0.07	0.11	0.15	0.2	0.2	0.3

NOTE: For a particular characteristic, see table A-5 for the factor to apply to the above standard errors.

Table A-3.
Standard Errors of Estimated Percentages for Black Persons
(Bases in thousands)

Base of estimate	Estimated percentage					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
25	6.6	10.3	14.2	18.9	20.5	23.7
50	4.7	7.3	10.0	13.4	14.5	16.7
75	3.8	6.0	8.2	10.9	11.8	13.7
100	3.3	5.2	7.1	9.5	10.3	11.8
250	2.1	3.3	4.5	6.0	6.5	7.5
750	1.2	1.9	2.6	3.5	3.7	4.3
1,000	1.1	1.6	2.3	3.0	3.2	3.7
2,500	0.7	1.0	1.4	1.9	2.1	2.4
5,000	0.5	0.7	1.0	1.3	1.5	1.7
7,500	0.4	0.6	0.8	1.1	1.2	1.4
10,000	0.3	0.5	0.7	1.0	1.0	1.2
15,000	0.3	0.4	0.6	0.8	0.8	1.0

NOTE: For a particular characteristic, see table A-6 for the factor to apply to the above standard errors.

Table A-4.
Standard Errors of Estimated Percentages for Hispanic Persons

(Bases in thousands)

Base of estimate	Estimated percentage					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
25	8.6	13.4	18.4	24.6	26.6	30.7
50	6.1	9.5	13.0	17.4	18.8	21.7
75	5.0	7.7	10.6	14.2	15.4	17.7
100	4.3	6.7	9.2	12.3	13.3	15.4
250	2.7	4.2	5.8	7.8	8.4	9.7
750	1.6	2.5	3.4	4.5	4.9	5.6
1,000	1.4	2.1	2.9	3.9	4.2	4.9
2,500	0.9	1.3	1.8	2.5	2.7	3.1
5,000	0.6	1.0	1.3	1.7	1.9	2.2
7,500	0.5	0.8	1.1	1.4	1.5	1.8
10,000	0.4	0.7	0.9	1.2	1.3	1.5
15,000	0.4	0.6	0.8	1.0	1.1	1.3

NOTE: For a particular characteristic, see table A-7 for the factor to apply to the above standard errors.

Table A-5.
"a" and "b" Parameters for Characteristics of Total or White Persons

Characteristic	a	b	f[1]
Voting, registration, reasons for not voting or registering:			
CPS counts	-0.000021	3,827	1.00
Official counts	(X)	(X)	(X)
Citizenship, household relationship, family heads by presence of children, marital status, duration of residence, tenure, education level, employment status, family income of persons, and occupation group	-0.000021	3,827	1.00
Characteristics of all persons, voting and nonvoting:			
Marital status	-0.000030	5,320	1.39
Education of persons	-0.000015	2,745	0.72
Education of family head	-0.000012	2,111	0.55
Employment, not in labor force, occupation	-0.000016	2,763	0.72
Unemployment	-0.000015	2,619	0.68
Persons by family income	-0.000025	4,477	1.17
Duration of residence tenure	-0.000030	5,320	1.39
Household relationships, voting and nonvoting:			
Head, spouse of head	-0.000012	2,111	0.55
Nonrelative or other relative of head	-0.000030	5,320	1.39

X Not applicable.
1Factors to be applied to tables A-1 and A-2, to obtain approximate standard errors of characteristics.
Note: For standard errors of historical data multiply parameters and factors by:

Subject	1964	1966	1968-80	1982-86
a and b	0.99	1.55	0.66	0.84
f	0.99	1.24	0.81	0.92

Table A-6.
"a" and "b" Parameters for Characteristics of Black Persons

Characteristic	a	b	f[1]
Voting, registration, reasons for not voting or registering:			
CPS counts	-0.000284	5,602	1.00
Official counts	(X)	(X)	(X)
Citizenship, household relationship, family heads by presence of children, marital status, duration of residence, tenure education level, employment status, family income of persons, and occupation group	-0.000284	5,602	1.00
Characteristics of all persons, Voting and nonvoting:			
Marital status	-0.000387	7,630	1.36
Education of persons	-0.000157	3,087	0.55
Education of family head	-0.000097	1,907	0.34
Employment, not in labor force, occupation	-0.000140	2,763	0.49
Unemployment	-0.000153	3,011	0.54
Persons by family income	-0.000260	5,118	0.91
Duration of residence tenure	-0.000387	7,630	1.36
Household relationships, Voting and nonvoting:			
Head, spouse of head	-0.000097	1,907	0.34
Nonrelative or other relative of head	-0.000387	7,630	1.36

X Not applicable.
[1]Factors to be applied to tables A-1 and A-3, to obtain approximate standard errors of characteristics.
Note: For standard errors of historical data multiply parameters and factors by:

Subject	1964	1966	1968-80	1982-86
a and b	0.99	1.55	0.66	0.64
f	0.99	1.24	0.81	0.92

Table A-7.
"a" and "b" Parameters for Characteristics of Hispanic Persons

Characteristic	a	b	f[1]
Voting, registration, reasons for not voting or registering:			
CPS counts	-0.000737	9,441	1.00
Official counts	(X)	(X)	(X)
Citizenship, household relationship, family heads by presence of children, marital status, duration of residence, tenure education level, employment status, family income of persons, and occupation group	-0.000737	9,441	1.00
Characteristics of all persons, voting and nonvoting:			
Marital status	-0.001004	12,859	1.36
Education of persons	-0.000406	5,203	0.55
Education of family head	-0.000251	3,214	0.34
Employment, not in labor force, occupation	-0.000364	4,657	0.49
Unemployment	-0.000396	5,075	0.54
Persons by family income	-0.000673	8,625	0.91
Duration of residence tenure	-0.001004	12,859	1.36
Household relationships, voting and nonvoting:			
Head, spouse of head	-0.000251	3,214	0.34
Nonrelative or other relative of head	-0.001004	12,859	1.36

X Not applicable.
[1]Factors to be applied to tables A-1 and A-3, to obtain approximate standard errors of characteristics.
Note: For standard errors of historical data multiply parameters and factors by:

Subject	1972-74	1976-80	1982-84	1986
a and b	0.79	0.44	0.56	0.64
f	0.89	0.66	0.75	0.92

Table A-8.
State Voting Parameters

States	a	b
Alabama	-0.001510	4,448
Alaska	-0.001444	487
Arizona	-0.001609	3,616
Arkansas	-0.001388	2,402
California	-0.000366	7,048
Colorado	-0.001522	3,636
Connecticut	-0.001680	4,117
Delaware	-0.001531	712
District of Columbia	-0.001436	698
Florida	-0.000327	2,826
Georgia	-0.001304	5,567
Hawaii	-0.001523	1,107
Idaho	-0.001384	968
Illinois	-0.000382	3,285
Indiana	-0.001465	5,972
Iowa	-0.001293	2,793
Kansas	-0.001294	2,326
Kentucky	-0.001426	3,920
Louisiana	-0.001412	4,561
Maine	-0.001411	1,218
Maryland	-0.001572	5,198
Massachusetts	-0.000372	1,683
Michigan	-0.000398	2,608
Minnesota	-0.001467	4,558
Mississippi	-0.001359	2,523
Missouri	-0.001454	5,463
Montana	-0.001310	790
Nebraska	-0.001230	1,446
Nevada	-0.001826	1,277
New Hampshire	-0.001744	1,290
New Jersey	-0.000359	2,086
New Mexico	-0.001288	1,312
New York	-0.000318	4,341
North Carolina	-0.000374	1,714
North Dakota	-0.001181	580
Ohio	-0.000357	2,872
Oklahoma	-0.001267	3,138
Oregon	-0.001694	3,400
Pennsylvania	-0.000343	3,162
Rhode Island	-0.001603	1,198
South Carolina	-0.001217	2,921
South Dakota	-0.001105	554
Tennessee	-0.001344	4,782
Texas	-0.000360	4,205
Utah	-0.001493	1,606
Vermont	-0.001638	658
Virginia	-0.001165	4,846
Washington	-0.001525	4,913
West Virginia	-0.001406	2,081
Wisconsin	-0.001303	4,665
Wyoming	-0.001643	611

Table A-9.
Census Division and RegionVoting Parameters

Divisions and regions	a	b
Census divisions:		
New England	-0.000221	2,146
Middle Atlantic	-0.000122	3,505
East North Central	-0.000114	3,543
West North Central	-0.000280	3,631
South Atlantic	-0.000117	3,495
East South Central	-0.000369	4,103
West South Central	-0.000207	3,964
Mountain	-0.000267	2,433
Pacific	-0.000244	6,237
Regions:		
Northeast	-0.000082	3,161
Midwest	-0.000081	3,569
South	-0.000063	3,757
West	-0.000151	5,237
All except South	-0.000034	3,929

Appendix B.
Current Population Reports – Voting and Registration

Series P-20

No. 143 Voter Participation in the National Election: November 1964
No. 174 Voting and Registration in the Election of November 1966
No. 192 Voting and Registration in the Election of November 1968
No. 228 Voting and Registration in the Election of November 1970
No. 230 Characteristics of New Voters: 1972
No. 253 Voting and Registration in the Election of November 1972
No. 293 Voting and Registration in the Election of November 1974
No. 322 Voting and Registration in the Election of November 1976
No. 344 Voting and Registration in the Election of November 1978
No. 370 Voting and Registration in the Election of November 1980
No. 383 Voting and Registration in the Election of November 1982
No. 405 Voting and Registration in the Election of November 1984
No. 414 Voting and Registration in the Election of November 1986
No. 440 Voting and Registration in the Election of November 1988

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The Bureau of the Census has released individual State reports showing annual population estimates for counties (or equivalents) and metropolitan statistical areas (MSA's) for the years 1981 through 1985, together with 1980 census counts and components of population change for the period 1980 to 1985. The series of 50 State reports has been published on a flow basis over several months in Current Population Reports, Series P-26.

These estimates supersede the Series P-26 State reports issued for 1981–83 and the provisional county estimates published separately for 1984 and 1985. They are consistent with provisional county population estimates for 1986 released in Current Population Reports, Series P-26, No.86-A.

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